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The
ILLINOIS
Medical Journal

VOL. 99 NO. 3

March, 1951

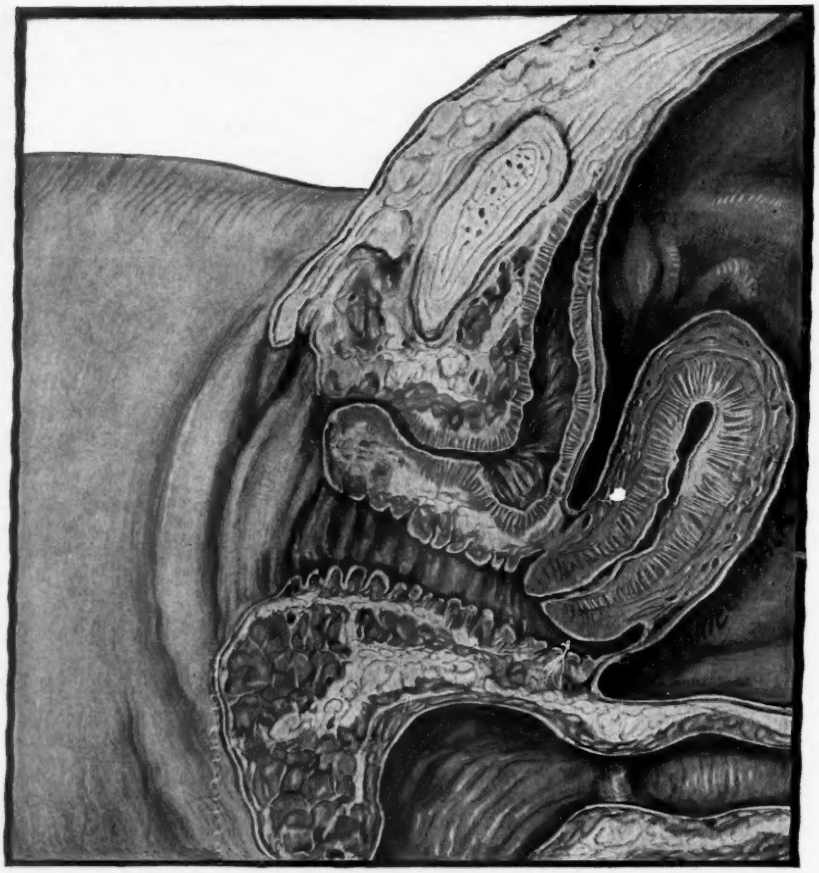
Urological Problems During Pregnancy

Xylocaine for Regional Anesthesia

PRELIMINARY PROGRAM for the
ANNUAL MEETING — Illinois State Medical Society
CHICAGO, MAY 22, 23, 24

(See page 5 for Table of Contents)

OFFICIAL JOURNAL OF THE ILLINOIS STATE MEDICAL SOCIETY



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Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 8, 1879. Acceptance for mailing at special rate of postage provided for in section 1102, Act of October 8, 1917, authorized July 15, 1918. Office of Publications, 715 Lake Street, Oak Park, Ill.

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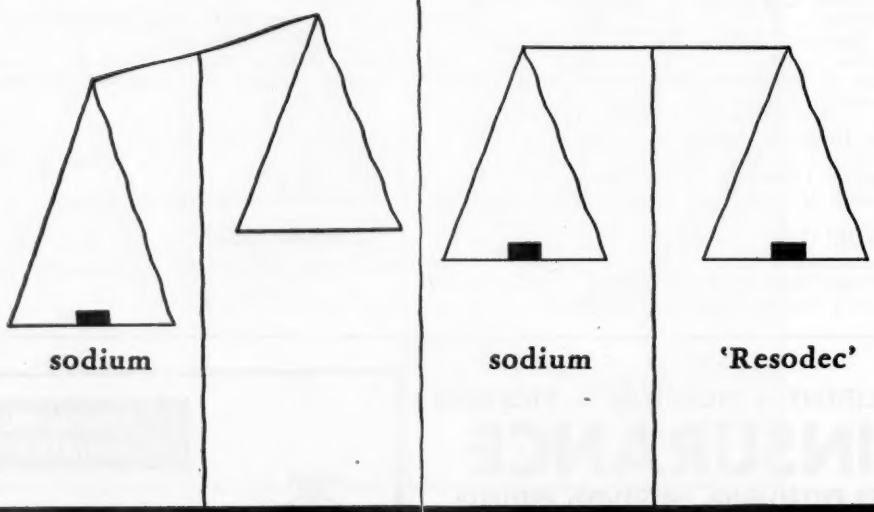

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The ILLINOIS Medical Journal

Official Journal of the Illinois State Medical Society

Harold M. Camp, EDITOR. Theodore R. Van Dellen, ASSOCIATE EDITOR.

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Vol. 99, No. 3 March, 1951

ANTICOAGULANTS

The usefulness of the anticoagulants depends upon the ability of the laboratory to perform accurate clotting and prothrombin time. Without these tests it is impossible to avoid the dangers of thrombosis on the one hand and hemorrhage on the other. The use of heparin and dicumarol should not be attempted therefore unless good laboratory service is available.

Heparin is a normal constituent of the body. It acts directly upon the blood and when taken in moderate doses affects the clotting but not the prothrombin time. It does not, however, change the bleeding time. The drug is given parenterally and is ineffective when administered by mouth. Heparin acts immediately but the effect is temporary. When too much has been administered through error, an antidote is available in the form of protamine.

The dosage of heparin is judged easily by its effect upon the clotting time. The test is not difficult but must be done according to instructions in order to obtain uniform results. A faulty venipuncture, for example, may alter the results by 10 to 15 minutes. The response to heparin varies with the individual. There are hyporeactors and hyperreactors and the effect of the drug may be altered by anesthesia, operations, surgical convalescence, or thrombotic conditions.

At the present time there are three ways of administering the drug. The continuous intravenous injection provides a closer control over the action of the drug; there are no periods of incoagulability alternating with periods of nearly normal clotting. Approximately 20 mg. of heparin is administered every hour to establish a clotting time of 15 minutes. Some recommend using 200 mg. in 100 cc. of saline solution. This is infused at the rate of 30 drops a minute until the clotting time reaches 15 minutes and then reduced to maintain the clotting time at this level. The second method is to administer heparin in four daily doses. Fifty milligrams is given three times during the course of the day starting at 8:00 a.m. The fourth dose is 100 mg. and is usually administered at 8:00 p.m. This makes a total of 250 mg. for 24 hours. In some instances it is necessary to give three doses of 75 mg. and one of 125 mg. to obtain the desired results. Heparin also is available in mixtures (Pitkin menstrum and Depo-heparin) to prolong absorption. Products of this nature are given every 8 to 24 hours with a satisfactory effect upon the clotting time.

Dicumarol has the advantage of being active when taken orally. The accepted dose is 200 to 300 mg. initially, followed by a single daily dose thereafter. The amount administered in the daily dose depends upon the prothrombin level

which is usually taken each morning before the drug is administered. The objection to dicumarol is the latent period of 24 to 48 hours before the drug begins to act. In addition, the prothrombin time may remain prolonged for as long as 10 days after dicumarol therapy is stopped. These disadvantages stem from the action of the drug upon the liver. It prevents prothrombin synthesis. The drug is not easily controlled and when over-doses are given inadvertently, hemorrhage may occur. The antidote for overdosage is fresh blood. Large doses of vitamin K neutralize the action of the drug experimentally but are of less value as an antidote clinically.

THE GOOSE THAT LAID THE GOLDEN EGG

The modern medical college is not in the same financial status as it was two decades ago. According to Dean F. Smiley, Secretary of the Association of American Medical Colleges, $150,000 to $250,000 was an ample annual operating budget for the average medical school twenty years ago. Nowadays $750,000 may not be enough. The private schools are hit the hardest because the rising costs and increased taxation have reduced endowment gifts. In addition, the income from securities has been decreased through low interest rates. State institutions are more fortunate, but rising costs have compelled the various state legislatures to reduce appropriations for medical study and research. Tuition helps to defray expenses but medical schools are unable to support themselves from this source of revenue alone. Fifteen million dollars received from tuition last year provided only about 22.5 per cent of the total budget ($67,500,000) of our schools. This included cost of plant maintenance and contributions to teaching costs in affiliated hospitals.

With the cost of medical education on the increase, the Deans have been forced to work harder and harder to meet their budget. The $500,000 allotted by the American Medical Association is a pittance compared with the annual budget of $67,500,000. There is a limit also as to how much the tuition can be raised. One school is considering a plan of accepting only students who will sign notes repaying to the school the full costs of their education over a period of twelve and one-half years. This amount is between $8,000 and $12,000 and payments will begin six years after receiving their degree. It resembles a signed agreement to pay "alumni" dues in large denominations. Another suggestion is that every graduate pay $100.00 annually to his alma mater. This plan deserves serious consideration.

Government funds are the alternative. The shortcomings of this plan are obvious but many of the Deans have found that since they cannot squeeze blood from a turnip they may be forced to dip their fingers into the Government tills to keep out of the red. In a recent poll, all but eight medical schools (4 private & 4 state) stated that they would be willing to accept funds from this source for teaching and research purposes. It is hard to criticize them considering the poor response from alumni and other sources. Here is anthor example of how the physician may be forced to come to the rescue of institutions that are the very foundation of our system of free enterprise. This is more imminent today than ever before, especially in a time of emergency. We cannot allow the staffs of medical schools to be depleted nor essential research projects to be shelved because the organization lacks adequate financial support. This problem needs serious consideration by the medical profession. It is hoped that they will respond to obviate the necessity of the school accepting Federal aid and all that would naturally follow such a course.

DANVILLE'S NUMBER ONE CITIZEN OF 1950

Each year the city of Danville, Illinois selects its number one citizen of the year. A secret committee of the American Business Club selected Dr. Harlan English as the first citizen for 1950. Doctor English was guest of honor at the annual testimonial dinner held February 15, in the First Presbyterian Community Room. On the basis of public letters of nomination, Doctor English was the 18th Danville man to be accorded the first citizen honor.

For a number of years, Doctor English has been a member of the Council of the Illinois State Medical Society for the eighth district, and has functioned well in this capacity. He is chairman of the Society's Committee on Rural Health, and he primarily was responsible for the Student Loan Plan adopted jointly by the Illinois

State Medical Society and the Illinois Agricultural Association. He is also a member of the Illinois delegation to the American Medical Association House of Delegates.

During the 16 years Doctor English has been in practice at Danville, he has assumed many local responsibilities, among which are county wide school health examination and immunization program, which he organized and personally directed for two years. He is chairman of the Board of Directors of the Vermilion County Tuberculosis Hospital, and was one of the originators of the local blood bank.

This is the first time the award has been given to a Danville physician. It seems most fitting and proper that the activities of an outstanding physician in the community should be recognized by the citizenry as a whole, and he be publicly acclaimed as the outstanding citizen of the year. We recall that only a short time ago the city of Mt. Vernon, Illinois likewise gave the honor of being the citizen of the year to a distinguished physician, Andy Hall, who later was selected as the outstanding general practitioner of the nation for 1950.

It is much better to recognize the achievements of such men while they are alive and still active, rather than to memorialize their deeds and efforts after they are gone, and we commend the good people of Danville for selecting Harlan English as their first citizen for 1950.

ILLINOIS HOST NEXT YEAR TO MEDICAL SERVICE SESSION

"Nothing like our government has ever been tried before in human history," Donald J. Cowling, president emeritus of Carleton College, Northfield, Minn., told the National Conference on Medical Service at the Palmer House, Chicago, February 11.

"Our government is tailormade for the good of the governed," Dr. Cowling explained. "The people who made it were religious and it was rooted in their belief that, under the fatherhood of God, man is the center of all ultimate values.

"Its uniqueness is shown by the fact that only one-half of one per cent of the 200,000,000,000 people estimated to have lived on earth in the last 2,000 years have lived in freedom as we understand it in the United States today."

Dr. Cowling pointed out that the last article of the Bill of Rights — the Xth Amendment to the Constitution — reserved to the states "or to the people" all powers not specifically delegated to the federal government.

Today, he said, the federal government is reaching out for more and more of these powers, which the Constitution never intended it should have, over the lives and welfare of the people. He called for re-education of the American mind to freedom — to keep our citizens believing in the ultimate perfection of their own basic religious and political philosophy.

The Conference — 24th annual session of its kind — was the biggest and best yet staged, some 275 representatives of every state attended.

That fact was of great interest to the large delegation from Illinois, for the Illinois State Medical Society will play host to the meeting in 1952, as Wisconsin did this year.

Dr. Harlan English of Danville, a councilor of the Society and chairman of its Committee on Rural Medical Service was named secretary for the 1952 meeting. He will have to extend himself to set a higher record than Wisconsin's.

Dr. R. D. Bernard of Des Moines, Ia., served as chairman. The speakers included:

Dr. Robert H. Flinn of Washington, deputy surgeon general of the Public Health Service, who emphasized the importance of medical leadership in civil defense.

Dr. Howard A. Rusk of New York, chairman of the Health Resources Advisory Committee of the National Security Resources Board, and of the national Advisory Committee of Selective Service, who outlined the history and status of procurement of medical personnel for the armed forces.

E. H. O'Connor of Chicago, managing directory of the Insurance Economics Society of America, who spoke effectively on the doctor's case against socialized medicine.

Dr. George F. Lull, secretary of the American Medical Association, who explained the financial operations of the A.M.A. and what is being done with the $25 dues.

Dr. Cowling's inspiring talk was delivered at the luncheon session.

The afternoon opened with a panel discussion of the changing relationship between hospital and physician by Joe Norby of Milwaukee, administrator of Columbia Hospital, and Mac F. Cahal of Kansas City, Mo., executive secretary of the American Academy of General Practice.

Dr. Joseph S. Lawrence of Washington, director of the A.M.A. office there, described the medical and related bills before Congress.

Dr. Willard Wright of Williston, N.D., member of the State Board of Medical Examiners, discussed the training of physicians from unapproved foreign schools.

Leo E. Brown of Chicago, executive secretary of the Student American Medical Association, outlined the progress of the new organization.

Several question and discussion periods heightened the interest of the audience.

IODIZED SALTS IN GOITER PROPHYLAXIS

. . . Although the use of iodized salt in the United States has been purely optional, it has been the most common method of goiter prophylaxis. In Detroit, school cafeterias used nothing but iodized salt in feeding some 50,000 children for a period of five years. During this time, there was no evidence of any ill effects, and incidence of goiter dropped from 46 to 12 per cent within the period. During the same period similar surveys made in Cleveland, where iodized salt was not used, revealed only a drop from 34 to 30 per cent.

The addition of iodine to the drinking water supply also has been used in a number of different places, particularly in cities of the Great Lakes region. In those communities where this method has been used, there apparently have been no serious side effects, and the prevalence of goiter has been reduced, presumably as a result of the increased ingestion of iodine. *Excerpt*: *Some Aspects of Thyroid Disease VI., Prevention of Endemic Thyroid Disease, Ernest L. Stebbins, M.D., Baltimore, Md., Tex. S. J. M., Nov.* 1950.

COLDS

Of all the nasal conditions most likely to be allergic in origin, the recurring "cold" is the commonest. The patient's story is usually typical. He catches "cold" easily or, as he puts it, he lives with a "cold." He is scarcely over one before he has another. His nose is always stopped up. He obtains a good deal of mucus when he blows it, not pus, simple clear, thick mucus. He sneezes in the morning and coughs when he goes to bed. Often in the morning he raises a good deal of phlegm, which may gag him, and even make him vomit.

. . .Only treatment directed toward the allergy will relieve the patient with these complaints. Tonsillectomy will not cure it. The physician will find to his chagrin, and the patient to his annoyance, that symptoms have been interrupted only for the duration of the anesthetic. Penicillin by parenteral or aerosol administration, and sulfa drugs, even in large quantities, are equally useless except to clear up any superimposed infection. They will have no effect at all on the underlying allergy. *Excerpt*: *The Allergic Basis of Certain Otorhinolaryngologic Complaints, Jack R. Anderson, M.D., New Orleans, New Orleans M. S. J., Jan.* 1951.

PRELIMINARY PROGRAM OF THE ILLINOIS STATE MEDICAL SOCIETY ANNUAL MEETING

Hotel Sherman
CHICAGO, ILLINOIS
May 22, 23, 24, 1951

Scientific Programs

General Assembly

Dr. Anders Weigen, Chairman of the Executive Committee of the Committee on Scientific Work, has scheduled papers to be presented before the FOUR sessions of the General Assembly of the 1951 annual meeting. General Assemblies will be held in the Ballroom of the Hotel Sherman on Tuesday morning and afternoon and on Thursday morning and afternoon. (May 22nd and May 24th).

The President's Address, to be given by Dr. Harry M. Hedge, and the Orations in Medicine and in Surgery will be presented before this group. Out of state speakers from each Section and in each specialty, will appear before the General Assembly. The program is keyed to the interests and needs of the general practitioner.

The personnel of the Executive Committee preparing and scheduling these programs is as follows:

Chairman: Anders Weigen, Chicago
Vice-Chairman: George P. Guibor, Chicago
Secretary: Paul F. Fox, Chicago
Assistant Secretary: Armand J. Mauzey, Chicago

TUESDAY, MAY 22, 1951

Ballroom of The Sherman

9:00-9:10 Opening of the 1951 Annual Meeting, Harry M. Hedge, President, Chicago

9:10-9:30—"Diagnosis and Management of Congenital Heart Disease." Stanley Gibson, Emeritus Professor of Pediatrics, Northwestern University Medical School, Chief Cardiologist, Children's Memorial Hospital, Chicago

9:30-9:50—"Surgical Aspect of Congenital Heart Disease." Willis J. Potts, Chief of Surgery, Children's Memorial Hospital, Chicago

9:50-10:20—RECESS for viewing scientific and technical exhibits

10:20-10:50—"The Practicing Physician and Public Health." Walter L. Bierring, State Health Commissioner of Iowa, Des Moines.

10:50-11:20—PRESIDENT'S ADDRESS "FAITH"—Harry M. Hedge, Chicago

11:20-12:05—ORATION IN SURGERY—"Operations for Arterial Coronary Disease." Claude S. Beck, Professor of Neurosurgery, Western Reserve University School of Medicine, Cleveland

Afternoon Session

1:30-1:50—"Common Complaints in Obstetrics and Gynecology." W. C. Scrivner, East St. Louis

1:50-2:10—"Medical Aspects of Nuclear Energy." Robert V. Atz, Decatur, Illinois

2:10-2:40—"Our Experiences in Infant Feedings Without Added Carbohydrates." Lloyd E. Harris, Rochester Child Health Institute, Rochester, Minnesota

2:40-3:10—RECESS for viewing scientific and technical exhibits.

3:10-3:30—"Surgical Lesions of the Oesophagus." Charles B. Puestow, Clinical Professor of Surgery, University of Illinois College of Medicine, Chicago

3:30-4:00—"Effects of Bomb and Blast Injuries." Elbert DeCoursey, Colonel, Army Medical Center, Washington, D. C.

4:00-4:20—"Management and Outlook of Coronary Disease." Robert S. Berghoff, Clinical Professor of Medicine, Stritch School of Medicine, Loyola University, Chicago

4:20-4:40—To be announced.

THURSDAY, MAY 24, 1951

Ballroom of The Sherman

9:00-9:20—"Further Observations on the Treatment of Bulbar Poliomyelitis as a Problem in Respiratory Obstruction." Martin H. Seifert and Thomas Gallaway, Chicago

9:20-9:50—"Fundus Changes Seen in Hypertension." Harold G. Scheie, Assistant Professor of Ophthalmology, University of Pennsylvania School of Medicine, Philadelphia, Pa.

9:50-10:10—"Meningitis." Archibald L. Hoyne, Emeritus Professor of Pediatrics, University of Illinois College of Medicine, Chicago

10:10-10:40—RECESS to view scientific and technical exhibits

10:40-11:10—"Evaluation of Antibiotic Therapy." Chester S. Keefer, Wade Professor of Medicine, Boston University School of Medicine, Boston, Massachusetts

11:10-11:30—"Bronchoscopic Problems in the New Born." Paul H. Holinger, Associate Professor of Otolaryngology, University of Illinois College of Medicine, and Kenneth Johnson, Chicago

11:30-12:00—"Surgical Lesions of the Stomach." James T. Priestley, Associate Professor of Surgery, University of Minnesota Medical School, Rochester, Minnesota

Afternoon Session

1:30-2:00—"Complications of the Puerperium." Conrad Green Collins, Associate Professor of Obstetrics and Professor of Gynecology, Tulane University of Louisiana School of Medicine, New Orleans

2:00-2:45—ORATION IN MEDICINE: "Coronary Artery Disease." William D. Stroud, Professor of Cardiology, University of Pennsylvania School of Medicine, Philadelphia

2:45-3:15—RECESS to view scientific and technical exhibits

3:15-3:35—"The Use of Laboratory Procedures in Following Therapy with Cortisone and ACTH" Rachmeil Levine, Michael Reese Hospital, Chicago

3:35-4:05—"Uses of Radio-active Iodine in Medicine" Earl R. Miller, Professor of Radiology, University of California Medical School, Berkeley, California

4:05-4:25—"Comments on Adrenal Cortex in Systemic Disease." Allan T. Kenyon, Professor of Medicine, University of Chicago School of Medicine, Chicago

4:25—To be announced.

Section Programs

On Wednesday, May 23, several of the Sections plan to have independent section meetings. These meetings will be held in the Hotel Sherman with the following over-all plan:

Medicine and Surgery will not have special Section Meetings

Eye, Ear, Nose and Throat will meet from 9:00 to 11:30 and from 2:00 to 5:30

Preventive Medicine and Public Health will meet Wednesday afternoon

Pediatrics and Obstetrics and Gynecology — Wednesday afternoon

Pathology — Wednesday morning

Radiology — Wednesday afternoon

Pediatrics — Wednesday morning

The Illinois Chapter of the American Academy of Pediatrics will have its annual luncheon Wednesday noon, May 23.

SECTION ON EYE, EAR, NOSE AND THROAT

William A. McNichols, Dixon.....Chairman
George P. Guibor, Chicago.....Secretary

WEDNESDAY, MAY 23, 1951

9:00-9:20—"Present Day Management of Deafness" George E. Shambaugh, Jr., Chicago

9:20-9:40—"Traumatic Injuries of the Cornea" J. A. Johnson, Mt. Vernon

9:40-10:00—"Management of Choanal Polyps" Arthur Loewy and Irving Sokolsky, Chicago

10:00-10:20—"Wound Closure Following Cataract Surgery" Harold G. Scheie, Guest of Honor, Philadelphia, Pennsylvania

11:00-11:20—Business Meeting

11:20- RECESS to view scientific and technical exhibits

Afternoon Session

2:00-2:20—"Eye Infections and Injuries in Chemical and Atomic Warfare" Roland I. Pritikin, Rockford

2:20-2:40—"Pitfalls Occurring in Reconstructive Surgery of the Nose" John Nicholson, Chicago

2:40-3:00—"Five Year Survey of Nasopharyngeal Tumors" Irwin D. Horwitz, Chicago

3:00-3:20—"Indications for Keratectomy" Richard Perritt, Chicago

3:20-3:40—"A Statistical Survey of Dental Foreign Bodies Removed from the Lungs and Esophagus" Elmer Hagens, Chicago

3:40-4:00—"Indications and Technique for Using Replacement Grafts for Loss of Nasal Tip" Oscar Becker, Chicago

4:00-4:20—"Treatment of Anterior Laryngeal Stenosis by Tantalum Plate Implant" Albert Andrews and Marvin J. Tamari, Chicago

4:20-4:40—"Rose Thorn Penetrating the Cornea and Anterior Chamber" E. A. Pushkin and Thomas D. Allen, Chicago

4:40-5:00—"Practical Details in the Removal of Foreign Bodies from the Eye — Statistical Report" Louis Rampona, Chicago

5:00-5:20—"Results of Visional Survey in Oak Park Schools" Palmer Good, Oak Park

SECTION ON PEDIATRICS

WEDNESDAY MORNING, MAY 23, 1951

Anders J. Weigen, Chairman .....Chicago
Howard R. Miller, Secretary .....Peoria

9:00-9:20—"A Resume of the Proprietary Infant Foods" Herman F. Meyer, Associate Professor, Pediatrics, Northwestern University Medical School, Chicago

9:20-9:40—"Articular Disease in Childhood" J. B. Richmond, Professor of Pediatrics, University of Illinois College of Medicine, Chicago

9:40-10:00—"Meningitis in Infants" John A. Bigler, Professor and Head of the Department of Pediatrics, Northwestern University Medical School, Chicago

10:00-10:20—"Muscle Weakness in Children" Douglas Buchanan, Associate Professor, University of Chicago Medical School, Attending Neurologist, Children's Memorial Hospital, Chicago

JOINT SESSION

SECTION ON OBSTETRICS AND GYNECOLOGY and SECTION ON PEDIATRICS

WEDNESDAY AFTERNOON, MAY 23, 1951

Obstetrics and Gynecology:
Worling R. Young, Chairman .....Geneseo
Armand J. Mauzey, Secretary .....Chicago

Pediatrics:
Anders J. Weigen, Chairman.....Chicago
Howard R. Miller, Secretary .....Peoria

2:00-2:30—"A Natural Child-birth by Relaxation: A Report of 169 Cases" Harold W. Miller, Chicago
3:00-3:30—"A Report of Experience in "Rooming-in" of Mother and Baby in Hospital"

SECTION ON RADIOLOGY

Theodore J. Wachowski, Wheaton ....Chairman
Willard C. Smullen, Decatur .....Secretary

WEDNESDAY AFTERNOON, MAY 23, 1951

The Section on Radiology plans to have its customary film reading session on Wednesday afternoon, with the guest of honor from out of state acting as the moderator.

The out of state guest will also appear before the General Assembly to present a paper of general interest.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

WEDNESDAY AFTERNOON, MAY 23, 1951

Dale E. Scholz, Chairman.....Chicago
Felix A. Tornabene, Secretary.....Aurora

SECTION ON PATHOLOGY

WEDNESDAY MORNING, MAY 23, 1951

Granville A. Bennett, Chairman .....Chicago
Coye C. Mason, Secretary.....Aurora

9:00-9:20 "Myocardial Infarction" William Wartman
9:20-9:30 Discussion
9:30-9:50 "Indeterminate Pulmonary Lesions" William E. Adams
9:50-10:00 Discussion
10:00-10:20 "Responsibility of the Hospital Pathologist" Edwin F. Hirsch
10:20-10:30 Discussion
10:30-10:50 "Tumors of the Parotid Gland" George Milles
10:50-11:00 Discussion
11:00-11:45 Title to be announced Frank Konzelmann

DON'T FAIL TO SEE THE SCIENTIFIC EXHIBITS AND SCIENTIFIC MOVIES THEY ARE "KEYED" TO THE GENERAL PRACTIONER AND ARE A POST-GRADUATE COURSE IN AN EASY "TAKE-HOME" PACKAGE

PHYSIOLOGY OF LIVER CLEARANCE
IRON DEFICIENCY ANEMIAS
MANAGEMENT OF VARICOSE VEINS
DIET AND ARTERIOSCLEROSIS
STEROIDS IN TREATMENT OF CANCER
HEMATOLOGIC PROBLEMS
FRESH TISSUE DEMONSTRATION
OFFICE GYNECOLOGY ALLERGY AND ALCOHOLISM
. . . . . AND MANY OTHERS

COMMITTEE ON SCIENTIFIC EXHIBITS
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H. A. Flack, M.D.
A. M. Vaughn, M.D.
L. W. Peterson, M.D.
D. E. Clark, M.D.
L. M. Zimmerman, M.D.

Other Groups Will Hold Meetings

The Illinois Obstetrical and Gynecological Society will have a pre-convention meeting at the Hotel Sherman on Monday, May 21. Dr. C. Otis Smith, as President, has notified this office that program material will be sent in for the April issue of the Illinois Medical Journal. The officers of this group for 1951 are:

President: C. Otis Smith, Oak Park
President Elect: R. R. Loar, Bloomington
Vice President: J. K. Hanson, Moline
Secretary: G. H. Edwards, Pinckneyville
Treasurer: George B. Callahan, Waukegan

The Illinois Chapter of the American Academy of Pediatrics will have an annual luncheon of the Chapter at the Hotel Sherman at 12:00 noon on Wednesday, May 23, 1951. Physicians who are interested are cordially invited to attend. Officers are:

President: John L. Reichert, Chicago
Vice-President: Gerald M. Cline, Bloomington
Secretary: Samuel J. Hoffman, Chicago
Treasurer: Harry L. Faulkner, Chicago

Diplomates of the National Board of Medical Examiners

A luncheon meeting of the Associated Diplomates of the National Board of Medical Examiners will be held in conjunction with the annual meeting of the Illinois State Medical Society on Tuesday, May 22 at the Hotel Sherman, Chicago, in one of the private Club Rooms.

For reservations please write to Dr. Willard O. Thompson, 700 North Michigan Avenue, Chicago 11, Illinois.

Darrell H. Trumpe, Springfield, has been appointed Chairman of the Arrangements Committee for the annual meeting of the Illinois Chapter, American College of Chest Physicians. The group will have a program consisting of three or four papers on diseases of the chest or related subjects; if it is at all possible, they will try to have one out of state speaker. The final program will be published in the April issue of the Illinois Medical Journal.

The Physicians' Association of the Illinois Department of Public Welfare will have a scientific program on Wednesday morning, May 23. Dr. I. Spinka, Clinical Director of the Chicago State Hospital has assured us that their program material will be prepared and ready for publication with our final program to appear in next month's Journal. This group has held annual meetings with the Illinois State Medical Society for many years; their papers have been published in the Journal, and the scientific session has contributed materially in this field of mental health.

Alumni Luncheons

The Loyola University Alumni Association (G. G. Grant, S. J., Secretary) has been contacted relative to an alumni luncheon for the graduates of the Stritch School of Medicine.

We expect to have the University of Illinois Alumni luncheon again this year, and the Phi Chi Fraternity will also get together during the annual meeting for a luncheon session.

Woman's Auxiliary

A most cordial invitation is extended to every doctor's wife to attend the 23rd annual convention of the Woman's Auxiliary to the Illinois State Medical Society May 22nd and 23rd at the LaSalle Hotel, Chicago.

Mrs. Henry Christianser is Convention Chairman with Mrs. Eugene McEnery as Co-Chairman. They and their committees are arranging a most entertaining program.

On the serious side we invite you to attend the business meetings. Here you will learn of the real achievements of the past year and also of the plans and program for the year ahead.

The Convention will open at 10:00 a.m. Tuesday, May 22. Please note the change of time — this year our Convention will be a half day longer to allow more time for the County President's Reports and the Question and Answer period which will be moderated by a Past State President. Bring your questions and problems — this period will be rewarding with its interchange of ideas and projects.

Convention plans are still in the formative state, but from all indications this will be one of our biggest Auxiliary Conventions. Luncheons, dinners and tours will be planned which should make the meeting a happy as well as an instructive one.

PLAN NOW TO ATTEND. If you wish to stay at Headquarters, make your hotel reservations early. We look forward to seeing you May 22 and 23 in Chicago.

Additional convention information will appear in the April issue of the Illinois Medical Journal.

The Technical Exhibitors

Again this year, the technical exhibitors will bring to the physicians of Illinois WHAT'S NEW IN MEDICINE.

Research, medical progress, improved equipment, will all be brought together for the benefit of those in attendance.

Representatives of these companies call on you during the year; take this opportunity to call at these booths during our meeting.

Remember these firms. They are contributing to the success of the 1951 annual meeting of the Illinois State Medical Society. Cooperate with them in every way possible.

ABBOTT LABORATORIES, North Chicago, Illinois ..... Booth 3
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CHICAGO X-RAY SALES COMPANY, 3832 N. Lincoln Avenue, Chicago, Illinois ..... Booths 35-36
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COMMERCIAL SOLVENTS CORP., 17 East 42nd Street, New York, N. Y. ..... Booths 69-70
CORECO RESEACH CORP., 1908 Broadway, New York, N. Y. ..... Booth 43

DANIEL SURGICAL & MEDICAL SUPPLIES, 3144 N. Naragansett Ave., Chicago, Illinois ..... Booth 15
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DOME CHEMICALS INC., 109 West 64th Street, New York, N. Y. ..... Booth 50

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ELI LILLY & COMPANY, Indianapolis, Indiana ..... Booth 71
ENCYCLOPAEDIA BRITANNICA, 20 North Wacker Drive, Chicago, Illinois ..... Booth 25

H. G. FISCHER & CO., 9451 West Belmont Ave., Franklin Park, Illinois ..... Booth 41

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THE UPJOHN COMPANY, Kalamazoo, Michigan ..... Booth 9

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WYETH INCORPORATED, 1600 Arch Street, Philadelphia, Pa. ..... Booth 33

THE ZEMMER COMPANY, 3943 Sennott Street, Pittsburgh, Pa. ..... Booth 68

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SOCIETY SOCIAL FUNCTIONS

THE ANNUAL DINNER honoring the retiring President of the Illinois State Medical Society, Dr. Harry M. Hedge, Chicago, will be held in the Ballroom on Wednesday evening, May 23. The immediate Past President, Dr. Walter Stevenson of Quincy, will act as Toastmaster. He will introduce the Past Presidents and guests present at the dinner. The President's Certificate will be presented to Doctor Hedge by the Chairman of the Council, Dr. Charles P. Blair of Monmouth.

On Tuesday evening the SECRETARIES' CONFERENCE dinner meeting will be held at 6:30 p.m. The speaker at this dinner will be Dr. C. Paul White, President-Elect, of Kewanee. The title of his address will be: "Medical Men and their Citizenship Responsibility".

This dinner will be open to all physicians attending the 1951 annual meeting. Dr. Carl F. Steinhoff, Chairman, Advisory Committee on Military Affairs, will also speak, and following his talk, will conduct a question and answer program on the status of physicians under Selective Service, and in relation to our Armed Forces today.

Following this dinner, the annual "Hospitality Hour" will be held. The physicians attending the meeting and the representatives of the technical exhibitors are guests of the Society at a "beer and pretzel" session.

The complimentary Fifty Year Club Luncheon will be held Thursday noon, May 24, with the Chairman, Dr. Andy Hall of Mt. Vernon, in charge as usual. These outstanding men and women in medicine will be the guests of the state society again this year. The luncheon is always a "high spot" in interest at each annual meeting of the Society.

MEDICAL ECONOMICS

The Medical Economics Committee. Chauncey C. Maher, Chairman, John R. Wolff, Co-Chairman, Edwin F. Hirsch, Carroll Birch, Hubert L. Allen, Frederick W. Slobe, Edward W. Cannady, Ford K. Hick, W. Robert Maloney, Roland R. Cross, Alfred P. Bay, Frederic T. Jung.

You And Blue Shield

You, as a physician, are a part of Blue Shield . .so, naturally, you are concerned about it. You are a part of it because Blue Shield is always sponsored by a medical society. In Illinois, at least 51 per cent of the doctors in a county must sign cards as participating physicians, and the county medical society must take official action approving a Blue Shield Plan before it can become operative in that county. So the physicians really underwrite Blue Shield in a moral sense at least; occasionally in a financial sense too—for example, should a Plan get into financial difficulty, physicians might be expected to accept a reduced schedule of allowances; also, in service Plans with a low income limit the doctors may subsidize the Plan partially. The State Department of Insurance considers this backing of Blue Shield by a majority of physicians in a county to be most significant and necessary. Once the cards have been signed, most Blue Shield Plans, if of the idemnity type, make no distinction between a participating physician and one who has not signed the cards. .making payments to all according to the schedule of allowances, the only requirement being that the physician to whom payment is made must be licensed to practice medicine and surgery in all its branches in the state where services are rendered. So you are really a part of Blue Shield whether or not you signed a card because of action taken by your medical society.

You know Blue Shield is an important part of the voluntary insurance movement. It has 16 million members and is growing rapidly. It operates on the not-for-profit principle in order that the maximum percentage of each premium dollar be utilized to pay or help pay for physicians' services. Blue Shield believes in the profit motive in business, in free enterprise, competition and incentive. But the type of protection offered by many private insurance companies in the past did not seem to be a good enough "buy" to the consuming public. And the popularity of Blue Cross was an important factor in influencing medical societies to establish Blue Shield as a companion Plan. Besides, there is room for all in the battle against compulsory health insurance. It is an obvious fact that the competition by Blue Cross and Blue Shield has been a decided influence in effecting improvements by the private insurance companies as regards contractual benefits. These improvements, in turn, act as a constant stimulus to the non-profit Plans.

The result is a steadily expanding service to the public.

You may have wondered why there are several Blue Shield Plans in Illinois. That is simply because county societies in various sections have seen fit to organize their own Plan. .usually in cooperation with a Blue Cross Plan. Those who fear "bigness" and alleged monopoly think this is sound. Others, however, are fearful about this and point to the success in our sister state, Michigan, where the Blue Shield Plan, "Michigan Medical Service", sponsored by the state medical society, has a membership of over 1,900,000 members. They are also concerned about future confusion in overlapping areas within a state, friction, diminished efficiency and impaired public relations as a result.

Of importance to you is the fact that Blue Shield is commonly known as "The Doctors' Own Plan." The responsibility and obligation implied here are obvious. If a Blue Shield Plan is badly administered. .if it gets into financial difficulty—if its contractual provisions are inequitable. .if the physicians do not cooperate. . if the subscribers have legitimate complaints not satisfactorily answered, both the Blue Shield movement and the medical profession suffer. If the doctors' charges are exhorbitant and out of proportion to the patient's ability to pay, the subscriber rightfully feels that membership in Blue Shield has been of no appreciable value because of the disproportion between the Blue Shield allowance and the doctor's fee. The same would apply if a physician, because of his patient's having Blue Shield coverage, increased his usual fee by an amount equal to the Blue Shield allowance. In such instances, the protective value of insurance coverage is lost.

Blue Shield does not fix the doctor's fee (if the Plan is of the indemnity type); and free choice of doctor and hospital are maintained always. Blue Shield does not practice medicine; and it is not within its scope to question either the doctors' charges, operative indications or procedures employed. The medical societies, however, *are* keenly interested; having either initiated or approved the program, they have a responsibility and an obligation too. .and that is why county or state medical societies have professional relations or advisory committees for Blue Shield with the exclusive function of carefully observing the relationship between the physicians, Blue Shield and the public. These committees are concerned about public relations and grievances. They contact physicians by letter or phone and may refer matters to appropriate committees for final disposition.

Since physicians have this responsibility, it follows that they should control Blue Shield Plans and such is the case. The majority of trustees are physicians although lay representation is recognized as an indicated procedure.

The public is the consumer of medical care and the consumer must be protected if the voluntary Plans are to serve their purpose as the chief bulwark against compulsory health insurance.

Blue Shield, then is *your* contribution toward supplying a nonprofit medical care Plan to help pay or pay medical costs. It is *your* contribution to furnish an important component in the voluntary health insurance field. .as opposed to the compulsory political type. So your support is essential. This includes explaining it to your patients, friends and business contacts. Your secretary needs to know about it too. Filling forms out promptly and completely is important. The more information you furnish, the better can the disbursing department of Blue Shield evaluate your cases. There is no violation of confidence involved since every Blue Shield member authorizes this upon joining. And unless your fee is stated, Blue Shield cannot obtain statistics as to what percentage of doctors' bills it pays.

In general, there are two types of Blue Shield Plans—the "indemnity" type and the "service" type.

The Indemity Plans

In the "indemnity" Plans, payments are made to physicians, according to a fixed schedule of allowances, the physician being privileged to charge the patient the difference between his fee and the allowance received. Hence the allowance neither fixes nor bears any relationship to the physicians' charges. There are many, especially leaders of organized labor, who have voiced dissatisfaction with the indemnity principle. The chief objection has been that, where indemnity contracts prevail, too small a percentage of the physicians' fee is covered by the Blue Shield allowance.

This objection might be obviated: (1) if payments under an indemnity scheduled were large enough to equalize the average prevailing

charges; and (2) if physicians, in such instances, would charge the average patient approximately what the Blue Shield allowance amounted to. This would require a moderate increase in subscription rates but appeals to the physician because it does not conflict with his traditional method of practice and billing.

The Service Plans

In the "service" type, where the member or the member's family income does not exceed a stipulated amount, the physician agrees to accept the Blue Shield allowance as payment in full, but is privileged to charge an additional amount of equalize his fee when the family income exceeds the stipulated level. Thus, most service contracts are really a combination of both types --being of a "service" type when family income does not exceed a certain level. . and an "indemnity" type when income does exceed such level.

The "service" Plans appeal to the public because no additional payment need be made to the physician unless the family income exceeds a stipulated amount, in which case the Plan operates on the indemnity principle. Some Plans have more than one service contract with different income limits; for example, $3,000 and $5,000. Selling at different rates, they fit the financial resources of the members; also, the allowances in the latter may range from 30 to 100 per cent higher than in the former. The decision as to income level is usually left to the physicians—sometimes the member is asked to fill out a brief form; rarely is difficulty experienced on this score. If this income level is set at $5,000 for example, it would include about 80 per cent of the population in most communities. . and physicians' fees for this 80 per cent would be fixed at the Blue Shield allowance. This upsets the traditional system and is disquieting to many physicians. There are others who feel that this is part of the physicians' contribution to the battle against socialized medicine. They feel that some change and adjustment is necessary to meet the demands of masses of people despite all our efforts toward education. Physicians are inherently altruistic; monetary gain has never been their motivation; they know that no financial reward can ever be measured to compensate them for having saved a life; they do not expect their services to be compensated on the basis as a lawyer or broker; and many of them are perfectly willing to subsidize a Blue Shield Plan. Financial loss, however, does not appear to accrue where well integrated service Plans are in operation with a high enough income limit and a correspondingly adequate schedule of payments. In such instances, the income of physicians appears to be maintained at the previous level. In this connection, Dr. Louis F. Middlebrook of Connecticut Medical Service has said: "It has been my impression from talking with both Participating Physicians and with Subscribing Member-patients that because of rapid settlement of claims and 100 per cent collections, payments on cases that otherwise would have been Staff cases without remuneration for the physician, and on others which would have been impossible or difficult to collect, the net result has been increased remuneration for the physician and improved services to the patient." One reason for this is a sufficiently high rate to enable payments substantially higher than exists in most indemnity Plans.

The public is invariably enthusiastic about service Plans. People say it is the profession's positive and satisfactory answer to political medicine. The trend is strongly toward the service Plan philosophy and it behooves us to study the matter impartially. We should probably ask ourselves why it should not be successful here if it is successful in other states.

Indeed, the "service" philosophy. .namely, furnishing complete or virtually complete hospital or medical service instead of dollars. . is the unique and most popular feature of most Blue Cross and Blue Shield Plans.

If the Blue Shield Plans in Illinois are successful, it will be largely because of your attitude, understanding and cooperation. Of those favoring compulsory health insurance, some think so because of unfavorable experiences with physicians' charges; others because they believe the average person cannot pay the cost of a hospitalizing illness. The first criticism can be met through education of the profession and in the exceptional, justified case by referral to the Grievance Committee of a medical society. The second criticism can be met by voluntary insurance if most, if not all, of the medical bill is paid and if coverage is available to most of the people. A third requisite is that the rate charged for such coverage is one which the people can afford to pay. It is difficult to reconcile these

needs without having recourse to the "service" type of certificate and rendering available individual as well as group enrollment.

Dr. H. L. Childs has said that the "success of free enterprise system depends upon providing the best possible service to the largest number of people at prices they can afford to pay." This statement is applicable to medical service too. Blue Shield aims to help people do this. How far it will succeed depends on you—F.W.S.

RADIATION SICKNESS

Ionizing radiation is the additional hazard which makes the atom bomb different from the conventional bomb. The estimated deaths caused by ionizing radiation were approximately 15 per cent of the total. It is true that many of the individuals who were killed by blast and burns also had lethal doses of ionizing radiation. However, 85 per cent of the people who died at Hiroshima would have died if no ionizing radiation were present. Let us not underestimate nor attempt to debunk the radiation hazard. The deaths from ionizing radiation at Hiroshima alone amounted to 9,000 people. However, there has been too much emphasis on the ionizing radiation effects in connection with the casualties produced and too little emphasis on the frightful number of individuals who died as a result of the blast and burns. The emphasis which has been placed on the ionizing radiation from the bomb has confused and frightened people to such an extent that many believe that it will be dangerous to enter a bombed community and rescue the wounded. Many people think of the atomic bomb only in terms of its ionizing radiation effects. This is an unfortunate and erroneous concept. We cannot emphasize too strongly that the initial problem is the evacuation and treatment of the blast and burn casualties. Bear in mind that after the detonation of an atomic bomb, such as at Hiroshima and Nagasaki, it is perfectly safe to enter the area and rescue the wounded without fear of exposure from the "residual" radiation. The facts to support this contention will become apparent as we discuss more fully what happens at and after the detonation of an atomic bomb. *Excerpt*: *Medical Problems in Atomic Warfare, Brig. Gen. James P. Cooney, (MC) USA, Washington, D. C., N. Y. S. J. M., Jan.* 15, 1951.

LEPROSY

Among the ancients, leprosy appears to have been a generic term for many varieties of skin disease, some of which, according to Hebrew tradition, rendered a person ceremonially unclean. Throughout the middle ages the disease prevailed extensively in Europe where the number of sanctuaries is said to have exceeded twenty thousand. At the present time, leprosy is known in Iceland, Norway and Sweden, parts of Russia and of China and India and in certain provinces of Spain and Portugal. In the United States the disease is endemic in Louisiana, Florida, Minnesota, New York and Texas, while in the Dominion of Canada foci exist in New Brunswick, Cape Breton and Nova Scotia. The disease is also endemic in the West Indies and in Mexico, in the Sandwich Islands, the Philippines and Hawaii. *Excerpt*: *The Clinical Significance of Foreign Body Granulomas*: *A Review, Douglas Symmers, M.D., New York, J.S.C.M.A., Jan.* 1951.

CORRESPONDENCE

"YOUR MENTAL HOSPITALS" THE CRIMINAL SEXUAL PSYCHOPATH

In the State of Illinois there are statutes for commitment for the epileptic, the mentally defective and the mentally ill persons. In addition to these civil commitments, there are three commitments available under the Criminal Code. The first consists of those charged with felony where the question of insanity is at issue; the other two concern the criminal sexual psychopath.

The first legislation which dealt with sex offenders was passed in Illinois in 1938 and since then a number of states have passed a similar type of legislation. It is an interesting observation that although those who proposed and enacted such legislature recognized that the sexual offense was a symptom of a mental disorder, they were not successful in removing the procedure from the Criminal Code. The definition of a criminal sexual psychopath under the provisions of this Act is a follows:

> Definition.—All persons suffering from a mental disorder, and not insane or feebleminded, which mental disorder had existed for a period of not less than one (1) year, immediately prior to the filing of the petition hereinafter provided for, coupled with criminal propensities to the commission of sex offenses, are hereby declared to be criminal sexual psychopathic persons.

Patients committed under the above Act are sent to the Illinois Security Hospital.

In addition to the above Act, a bill was enacted in the State of Illinois in 1947 which required the penitentiary system to have their inmates reexamined who had been originally sentenced on charges of incest, rape, crime against nature or taking indecent liberties with a child. This examination must take place prior to their release at the expiration of their sentence. If they are felt to be criminal sexual psychopaths they are then to be committed to the Illinois Security county and if in the opinion of these physicians they are criminal sexual psychopaths, they are then to be committed to the Illinois Security Hospital.

There has been considerable discussion concerning the commitment of persons under the above two Acts and considerable clarification is still required as to what actually constitutes a sexual psychopath. It is felt by many psychiatrists that certain definite criteria should be laid down in order to clarify the definition of a sexual psychopath. They stress such important factors as a repetitive, compulsive act, aggressive in nature against minors or an aggressive sexual act against society. It should not include those who are insane or feebleminded nor should an in-

dividual be convicted because of an isolated sexual act. Also, the entire field of therapy of these offenders requires considerable research as little has been accomplished to date.

G. A. Wiltrakis, M.D.
Deputy Director

CLINICS FOR CRIPPLED CHILDREN LISTED FOR APRIL

Doctor Herbert R. Kobes, director of the University of Illinois Division of Services for Crippled Children, has released the Aprli schedule of clinics for physically handicapped children. The Division will conduct 19 general clinics providing diagnostic orthopedic, pediatric, speech and hearing examinations along with medical, social and nursing services. There will be 4 special clinics for children with rheumatic fever and 1 for cerebral palsied children.

Local medical and health organizations, both public and private, cooperate with the Division in providing this clinic service to Illinois' thousands of physically handicapped children. The examining clinicians are selected from private physicians who are certified Board members. Any private physician may refer or bring to a convenient clinic those children for whom he may want examinations or may want to receive consultative services.

The April clinics are:

April 3—E. St. Louis, St. Mary's Hospital
April 4—Elgin, Sherman Hospital
April 4—Shelbyville, Veterans Center
April 4—Alton, Alton Memorial Hospital
April 5—Macomb, St. Francis Hospital
April 10—Peoria, St. Francis Hospital
April 10—Flora, Clay Co. Memorial Hospital
April 11—Hinsdale, Hinsdale Sanitarium
April 12—Cairo, Public Health Building
April 12—Springfield, St. John's Hospital
April 12—Elmhurst (Rheumatic Fever), Memorial Hospital of DuPage County
April 12—Rockford, St. Anthony's Hospital
April 13—Chicago Heights (Rheumatic Fever), St. James Hospital
April 17—Danville, Lake View Hospital
April 17—Pittsfield, Illini Community Hospital
April 18—Chicago Heights, St. James Hospital
April 24—Peoria, St. Francis Hospital
April 24—Effingham (Rheumatic Fever), Douglas Township Bldg.
April 25—Springfield (Cerebral Palsy), Memorial Hospital
April 25—Aurora, Copley Hospital
April 26—Normal, Brokaw Hospital
April 26—Glenview, Village Hall
April 26—Mt. Vernon, Masonic Temple
April 27—Chicago Heights (Rheumatic Fever), St. James Hospital

THE JOSEPH A. CAPPS PRIZE

The Institute of Medicine of Chicago offers a biennial prize of $600 for the most meritorious investigation in medicine or in the specialties of medicine. The investigation may be also in the fundamental sciences, provided the work has a definite bearing on some medical problem.

Eligibility—Competition for 1951 is open to graduates of Chicago medical schools who completed their internship or one year of laboratory work in 1949 or thereafter.

Time Limit—Manuscripts must be submitted to the Secretary of the Institute of Medicine of Chicago, 86 East Randolph Street, Chicago 1, not later than December 31, 1951.

The manuscript, as submitted, of the prize paper is to become the property of the Institute of Medicine of Chicago.

If no paper presented is deemed worthy of the prize, the award may be withheld at the discretion of the Board of Governors.

HOSPITAL SEMINAR MEETING

All physicians are invited to attend an all day seminar which is to be held on Thursday, March 22, 1951 at the Peoria State Hospital, Peoria, Illinois. Outstanding speakers will participate in this program which will be held by the Peoria County Medical Society in conjunction with the Illinois Department of Public Welfare.

The program will be as follows:—

10:00 A.M.
Tour of Peoria State Hospital, including Special Treatment Services

12:00 Noon
Luncheon (guest invited)

1:30 P.M.
"Protruded Intervertebral Discs."
Dr. Eric Oldberg, Professor and Head of Dept. of Neurology and Neurological Surgery, University of Illinois, College of Medicine.

2:30 P.M.
"Indications for Electroshock Therapy"
Dr. Alfred P. Solomon, Clinical Associate Professor of Pychiatry, University of Illinois, College of Medicine.
3:45 P.M.
"The Surgical Treatment of Pain"
Dr. Oscar Sugar, Associate Professor of Neurology, University of Illinois, College of Medicine
5:00 P.M.
Re-dedication of Administration Building in honor of Dr. George Michell
6:00 P.M.
Dinner (Visitors and wives invited)
7:00 P.M.
"Dr. George Zeller, Pioneer"
by Dr. Maxim Pollack, Tuberculosis Section Chief, Veterans Administration, Downey, Illinois
"Common Psychiatric Problems of the General Practitioner"
by Dr. Francis J. Gerty
Professor and Head of the Dept. of Psychiatry, University of Illinois College of Medicine

This program has been arranged under the National Mental Health Act as a joint project of the Illinois State Medical Society, the Illinois Department of Public Health, the United States Public Health Service and the Illinois Department of Public Welfare.

AMERICAN COLLEGE OF PHYSICIANS POSTGRADUATE COURSE NO. 4

This course on Diseases Due to Allergic and Immune Mechanisms, will be conducted at the Hotel Roosevelt, Pittsburgh, Pa., April 24-28, 1951. The course is intended for those interested in Internal Medicine and in Allergy. It will convey an understanding of what has developed recently in the field of applied Immunology, Biochemistry, Hormonal Relations, Immunochemistry and the basic mechanisms of allergic reactions.

A great deal of stress will be placed on the immunological and physiological and pharmacologic bases for the manifestations of these diseases. The course will open on Tuesday, April 24 and continue through Saturday, April 28. Each day will end with a round table discussion, open to faculty and students alike. Suitable accommodations may be procured at the Hotel Roosevelt, Penn Avenue and Sixth Street, Pittsburgh 30, Pa., Mr. Charles R. Wilson, Manager.

Programs and other desired information relative to the course may be obtained by writing to Street, Philadelphia 4, Pa.

Nursing needs have increased in spite of lower death rates, longer life expectancies, and a generally healthier population. The number of people in the United States has increased by an estimated 16,000,000 since the 1940 census. More people are now living to an older age than ever before, and consequently the diseases and disabilities of older people have multiplied. A high standard of living has prevailed since the early years of the war, medical prepayment plans have spread, and public health services have been expanded in many areas. In 1940, 10,087,000 patients were admitted to hospitals in the United States, but by 1948 the number of hospital admissions had risen to 16,422,000. Pub. Health Reports, August 5, 1949, Chesley Bush, M.D., Esta H. McNett, R.N., B.S., Lucile Petry, M.A., and Martha B. Naylor, R.N., B.S.

Health education is the application of measures to induce experiences which favorably influence knowledge, attitudes and actions for the prevention of disease and the perfection of health of the individual members of society. Ira V. Hiscock, Pub. Health News, Feb., 1949.

Surveys have shown as much as four times more active tuberculosis among people 65 to 74 years of age than among the age group 15 to 24. Moreover, it appears that the disease more frequently goes unrecognized in the older population. In the Washington, D. C., survey, only 4 per cent of the older cases processed by the survey (aged 65 and over) were previously known to the health department, as against 25 per cent of the group 34 years of age and under. Journal-Lancet, Robert J. Anderson, M.D., April, 1950.

ORIGINAL ARTICLES

Urological Problems During Pregnancy

Herman L. Kretschmer, M.D., D.Sc.
Chicago

The most frequent urological complication of pregnancy is acute pyelonephritis. Although there has been a great reduction in the number of cases of acute pyelonephritis, recent statistics show that it is still of relatively frequent occurrence. Reported series of pyelonephritis during pregnancy show a variance in the incidence from as low as 0.6 per cent to as high as 16.3 per cent. The majority place the incidence between 1 and 2½ per cent. Out of 2972 deliveries in 1938 at the Boston Lying-In Hospital there were 22 cases of infection of the urinary tract during pregnancy (0.74%). A review of our own records at the Presbyterian Hospital for 10 years prior to 1945 showed 9,802 deliveries and among them there were 31 cases of pyelitis or 0.03%.

During the five year period from 1945 to 1949 inclusive, at the Presbyterian Hospital there were 8,564 deliveries. Of this total there were 5 cases of pyelonephritis—which makes an incidence of less than .05 of one per cent. This substantiates our previous statement that pyelonephritis of pregnacy is a preventable disease.

The urological problems, and the conditions that predispose to them during pregnacy are unique. It is an established fact that certain changes that occur in the urinary tract during pregnancy are physiological and not pathological. They have a definite bearing on the diagnosis and treatment of the pregnant woman from the urologist's point of view.

These changes consist of dilation of the renal pelves, with clubbing of the calyces, dilatation, tortuosity and lateral displacement of the ureters and a marked dilatation of the bladder. These changes predispose to stasis and hence infection.

Some of the normal anatomical and physiological changes which occur are a looseness of structures in the urinary tract, with wide separations in the fibers of the muscular coats of the urinary organs, widening of the submucosal layers, and increased thickness of walls of channels out of proportion to the evidence of hyperplasia. Even the vessels that make up the blood supply to the ureter throughout its course are very much enlarged. Congestion and cyanosis

Read at the Annual Clinical Conference of the Chicago Medical Society, Chicago, Illinois, February 28, March 1-3, 1950.

of the tissues and general hyperemia are characteristic of the urinary organs in pregnancy.

Even the gallbladder is in an atonic state. The bowel is markedly atonic and is pressed upon by the uterus in the middle and last trimesters, as are the ureters. Because the average pregnant woman is constipated to some degree, this bowel atony plays an important part in the etiology of the pregnancy infections of the urinary tract.

ETIOLOGY

Since dilatation with resulting stasis is such an important predisposing factor in the development of acute pyelonephritis, and since this dilatation is present in every pregnant woman, let us consider the mechanism of its development.

Many and varied are the theories advanced over the years to explain the dilatation. At the present time it is believed that the dilatation is due to two factors.

Most observers today believe that the primary cause of the dilatation are the endocrine changes of pregnancy and the second factor is pressure of the gravid uterus on the pelvic brim. Rossi considered a mechanical cause working in conjunction with hormones. Schmitz discussed the relation of hormones of pregnancy to dilatation of ureters and he called attention to Bompianis' experiments on living ureters in which it was found that prolan stimulated, while corpus luteum and follicular hormones paralyzed, or did not affect ureteral peristalsis. Greenhill is specific on this subject. He states: "The muscular hypertrophy and vascular changes may be due to stimulation by estrogen and the increasing atony of the ureters may be due to the relaxing effect of progesterone."

The second most important factor that plays a role in the production of acute pyelonephritis is the pressure of the pregnant uterus against the brim of the pelvis. This pressure obstructs the outflow of urine from the upper channels. The importance of pressure is adequately demonstrated by its prompt disappearance after delivery.

Other factors which have been attributed to producing pregnancy changes in the urinary tract are hyperemia, vascular engorgement and enlargement, hyperplasia of the ureteral musculature, particularly in the lower third of the ureter, the condition of the abdominal wall, parity, rotation of the uterus, age of the patient, asthenia and debility, position of the fetus in utero, toxins of pregnancy, ureteral strictures, neuro-generative changes from pressure against nerves in the pelvis near the uterus, renal ptosis, and deformity of the bony pelvis.

However, present day opinion is that the endocrines and pressure of the pregnant uterus are the most important factors.

FREQUENCY OF THE DILATATION

At the present time it is a well established fact that the dilatation of the upper urinary tract is a constant occurrence. It was formerly thought that it occurred only in cases of pyelitis or eclampsia.

Repeated pyelographic studies have shown that dilatation occurs in 100% of the cases. Schumacher studied 100 pregnancies by intravenous urography and found dilatation of the lumbar ureter in 100% of the cases after the fifth month and that the dilatation increased with the duration of the pregnancy.

Cornell and Warfield found dilatation of the right ureter in every case as early as the fifth month.

Heaney, Ockuley, and I found dilatation present during pregnancy or the puerperium in 100% of our cases. In one case the dilatation was not demonstrable until 16 days after delivery.

DURATION OF THE DILATATION

In the largest majority of cases the dilatation disappears rapidly after the termination of the pregnancy. Studies in the puerperium in our cases showed that in 59.375% (nearly 60%) of the pyelograms there was a return to normal after two weeks. In 34.375%, the pyelograms were normal after six weeks, and the remaining 6.250% were normal after 12 weeks.

Baird in 1936 believed that the puerperal atony is at its greatest height at eight to ten days after delivery. Rupp (1933, 1934, 1936) sets the end of this period at 8 weeks after delivery.

Should the dilatation persist beyond this time, it is probable that the cause was present before the pregnancy and therefore calls for careful complete urological study.

PREDISPOSING FACTORS

Stasis is not the only factor which predisposes to infection. However, the majority of the cases do have stasis.

"Prepared Soil" Factor. Some investigators have concluded that the normal urinary tract tends to clear itself of bacteria without the pro-

duction of infection; that where infection does take place there is some toxin of unknown origin which prepares the tissues of the channels for its implantation; and that stasis alone is not adequate to produce infection.

Constipation. The relationship between lesions of the bowel, such as chronic constipation and cathartic colitis are well established. It may be that this incidence is increased because of the loss of tone of the bowel, the result of endocrine influence during pregnancy. It is for this reason that particular attention must be directed toward the intestinal tract in pregnant women.

Foci of Infection. The role of distant foci of infection must also be borne in mind. For many years we have been impressed with the work of Frank Billings at the Presbyterian Hospital on the role of foci of infection in the production of metastatic disease. Since it has become a routine to remove all foci of infection, there have been fewer cases of pyelitis of pregnancy and fewer cases of abscess of the breast and phlebitis.

Attention to the teeth and tonsils is of utmost importance. In our series of cases infected teeth were present in 51% of the cases. X-rays are not always of value in the diagnosis of apical abscess, since the x-rays may be negative. However, cultures of removed teeth have shown very virulent organisms. With the use of the electropulp tester, there is less possibility of overlooking infection at the roots of the teeth.

Of the 9,802 deliveries at the Presbyterian Hospital for 10 years prior to 1945, 31 cases had pyelitis. The incidence of foci in these cases were as follows:

Teeth	14 incidents
Tonsils	6 incidents
Deep injection of the pharynx	6 incidents
Cold	5 incidents
Constipation	5 incidents
Sore throat	2 incidents
Influenza	2 incidents
Pneumonia	2 incidents
Kidney stone	2 incidents
Cough	1 incident
Chronic appendicitis	1 incident
Respiratory disease	1 incident

A review of the 31 cases showed that 2 case histories were incomplete; there were two cases in which the record failed to mention whether or not foci of infection were present. Thus we have 27 cases available for study. There were 17 patients with one focus; 4 patients with 2 foci; 3 patients with 3 foci; and 2 patients with 4 foci; and 1 patient with 5 foci; so that in 27 patients there were 45 foci of infection.

In some of our cases the patients entered the hospital during an acute attack of pyelonephritis without previous medical supervision. In others, although they were advised in the outpatient department to have their foci of infection removed, they failed to do so. Therefore, it is fair to assume that with cooperation, our incidence in our series could have been still further reduced.

Galloway studied roentgenologically the teeth of 242 pregnant women and found that 36 or 15% had apical infection. Since the removal of foci of infection, he has had fewer cases of pyelitis, mastitis, and toxemia.

One can see that with existing constipation and foci of infection one has everything favorable for the bacterial invasion of dilated channels in pregnant women, and hence the inception of urinary tract infection.

BACTERIA IN URINE IN NORMAL PREGNANCY

Bacteria may be present as the result of an infection which antedated pregnancy, remain uncured from a preceding pregnancy in multiparae, or be acquired as an infection of low virulence in the course of pregnancy. These symptomless conditions bear no relation to the degree of ureteral and pelvic dilatation, and patients with striking degrees of ureteral and pelvic change may proceed to delivery without any evidence of the infection except the presence of bacteria in the urine.

Cultures in normal pregnant women show a preponderance of coccal forms of bacteria. The bacterium most often found in urinary tract infection in pregnancy is Bacillus coli. It is estimated to be the cause of the infection in from 62.3% to 95% of all acute cases. Bacteria of the staphylococcus group are next in frequency, and the streptococcus comes third.

DIAGNOSIS

Diagnosis is based on a history of chills, fever, sweats, pain in the renal area on one or both sides, temperature, and the presence of pus and bacteria in a catheterized bladder specimen. One should remember that pyelonephritis during

pregnancy may mask a renal stone, renal tuberculosis, or other gross lesions of the upper urinary tract. In many instances the true nature of the situation is not recognized because the early symptoms are not distinguished from minor ailments such as the malaise of an acute cold.

In the early onset of acute pyelonephritis, the urine may be negative due to an obstruction in one or the other ureter and after a lapse of 24 or 48 hours, the urine is loaded with pus.

Acute Pyelonephritis, especially when the symptoms are right-sided may be confused with acute appendicitis. It is difficult at times to make this differential diagnosis, especially in a woman who has had several previous attacks of acute pyelonephritis. If after great care, intensive study, and able consultation, one is unable to make a differential diagnosis between acute appendicitis and acute pyelonephritis, one should give the patient the benefit of the doubt and operate.

TREATMENT

Prophylaxis. Pyelonephritis of pregnancy is a preventable disease. Therefore, prevention is of the greatest importance. All foci of infection should be removed and proper bowel management must be instituted. The frequency of foci of infection has already been considered above.

Active Treatment.

1. By far the largest number of cases can be treated conservatively with rest in bed and the free ingestion of fluids, together with a bland diet, with particular attention paid to the bowels.

2. In cases in which the above management fails we can employ sulphonamide compounds, penicillin, streptomycin, aureomycin and chloromycetin. It is important to determine the type of organism present and its sensitivity to the various sulpha compounds and the antibiotics. It is hardly necessary to stress the importance of giving sodium bicarbonate before and during the use of the sulpha compounds.

3. In some cases it may be well to use mandelic acid.

4. In cases where the above mentioned measures fail, the next step in the management is the ureteral catheter. This may be allowed to remain as an indwelling catheter. It should not be permitted to remain in place too long since cases have been reported in which patients have died due to erosion by the catheter of the deep vessels. The pelvis and ureter may be irrigated with water and a solution of 2% silver nitrate instilled.

PYELONEPHRITIS DURING PUERPERIUM

In a small number of cases the patients develop chills, sweats, and pus in the urine after delivery. This has been called pyelitis of the puerperium. It is interesting to note that this condition begins after the delivery. The treatment in no wise differs from that during pregnancy.

CALCULUS DISEASE IN PREGNANCY

Renal and ureteral lithiasis are relatively rare as a complication of pregnancy. Prather and Crabtree found stone present 4 times in 9823 deliveries. Hirst found 2 cases of renal stone in 2101 deliveries. No doubt in most cases the stones were present before the woman became pregnant.

The possible injurious effects of toxemia and infection on the pregnancy are matters that must be carefully considered in each case. In regard to treatment one should be guided by the individual case and the period of gestation.

The treatment of stone in the ureter may be considered under two headings: In one group the symptoms may be so severe that the patient must be operated upon at once. In the second group, in which the calculus is silent, operation may be optional. Even though the calculus is silent there is always the possibility of obstruction with its dangers of infection.

Ureterotomy and removal of the stone can be carried out without interference with the pregnancy.

TUBERCULOSIS IN PREGNANCY

Renal tuberculosis during pregnancy is very uncommon. Once the diagnosis of unilateral renal tuberculosis has been established, nephrectomy should be done . In the presence of bilateral tuberculosis, the pregnancy should be interrupted, because it is believed that pregnancy has an unfavorable influence on the tuberculosis.

TUMORS IN PREGNANCY

Tumors of the kidney complicating pregnancy are very rare. Opinions vary as to the management of these cases. Some believe nephrectomy should be done at once and the pregnancy allowed to continue. Others believe the pregnancy should be terminated at once and nephrectomy carried out.

If the case is entirely hopeless as far as the mother is concerned, operation may be neglected or delayed in the interest of the child.

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Xylocaine for Regional Anesthesia

Report on Results in Caudal Block Anesthesia

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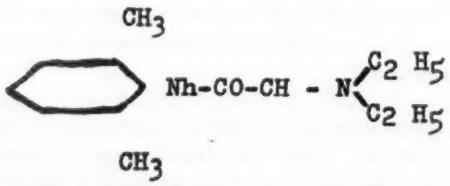
Xylocaine # (diethylaminoacet-2, 6 xylidide Hcl.) was produced in 1943 by Lofgren and



Lundqvist, clinically tested by Goldberg and Gordh in 1944 to 1947 and was put on the Swedish market the last mentioned year. At that time one of us (G.H.), working in the anesthesia department of the University Hospital in Lund, had the opportunity to follow the minor revolution in choice of anesthesia methods, that followed the introduction of this new agent. Many operations and diagnostic procedures, which earlier had been performed under general or spinal anesthesia, were now more and more done under regional anesthesia.

For instance, the frequency of brachial plexus blocks rose from only a couple in 1947 to about one hundred in 1948; and caudal blocks from about twenty to more than one hundred fifty. A similar increase was noticed for other diagnostic, surgical and therapeutic blocks.

The superiority of xylocaine over other block anesthesia agents as shown in this development in the Swedish anesthesia practice, has been confirmed by numerous investigators both in Sweden and the U.S. In summary it can be said that xylocaine in comparison to procaine has the following advantages:

1. Xylocaine is stable in both acid and alkaline solution, and is not decomposed by boiling.
2. Xylocaine has a slight vasoconstrictor effect as compared to the vasodilatator effect of procaine.
3. Although the absolute toxicity of xylocaine

Xylocaine supplied by Astra Pharmaceutical Products, Inc., Worchester, Mass.

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is somewhat greater than that of procaine, there is no doubt that its relative toxicity is considerably lower — in that the dosage required clinically is less.

4. The efficiency of xylocaine in clinical doses is superior to that of procaine:
   a. its time of onset is 2-5 times shorter.
   b. its duration is 2-5 times longer.
   c. anesthesia intensity is greater.
   d. its penetration and diffusion power is more pronounced.
5. Xylocaine is effective also as a topical anesthetic.
6. Xylocaine is effective without epinephrine, for long periods.
7. In dosage required clinically, side reactions with xylocaine are rarer than with procaine.

Even with the best anesthetic agent the clinical results in regional anesthesia depend in part on satisfactory premedication, the skill and accuracy of the anesthetist, cooperativeness and gentleness from the surgeon. Block anesthesia ought never to be done in a hurry, and we have therefore routinely performed them half an hour before scheduled operation. We use the extra time not only for carefully checking the field of analgesia and to repeat the injection if necessary, but even to give the patient a definite mental preparation, helping him not only to accept the coming procedure, but to enjoy this form of anesthesia.

In this presentation of our results of about one hundred cases of different regional anesthesia procedures, we have concentrated on the first fifty cases of caudal block anesthesia for anal and vaginal surgery, as this form of regional anesthesia gives fewer variations from other factors that can influence the results. Because of the extreme pain sensitivity in this surgical region, every partial analgesic failure is a complete clinical failure and in such way the potentialities of the anesthetic drug stand out alone.

Forty-four cases were satisfactory in every respect. Two others were satisfactory when lightly supplemented, the reasons being noted below Four failures are described below. Time of onset of anesthesia was one to five minutes, with all but a few being one to two minutes. Duration of action was one to five hours; mostly three to four hours.

The failures.

Black[8] has the opinion that 20% of all patients are unsuitable for caudal anesthesia because of their emotional status, infections in the region, or bone deformities. The latter — based upon his anatomical investigation — was an absolute hindrance in 15.3%. Hingson and Edwards have reported a failure of 8.8% and their figures are more in correspondence with the authors' experience, ie., 4 cases in fifty.

In our series, in only one case (No. 18) was it absolutely certain that the needle did not enter the caudal canal. The palpatory findings gave suspicion of a nonclosed sacrum, and the attempts to insert a needle supported the suspicion.

In No. 13, an extremely obese 52 year old male, it is dubious if the needle was in place.

In No. 21, palpation gave suspicion that the caudal hiatus was very small, and after a few attempts to introduce a needle a local haematoma became a hindrance to further attempts. We could not tell whether the needle was in the canal or not.

In No. 3, a 63 year old male, 25 cc. xylocaine produced blurring of pain after 7 minutes, but as the analgesia after 17 minutes still was incomplete, the operation was done under local infiltration, instead of new injection in the caudal canal.

Supplemented anesthesia was given in two cases. In one case (No. 23) pentothal was given to a very nervous 44 year old female in spite of complete block analgesia for haemorrhoidectomy. In No. 50 intermittent N_2O analgesia was given during vaginal hysterectomy, when the patient temporarily complained of "cramp in stomach."

Complications were seen in 8 cases.

TABLE I

	Hypertensive reactions	Hypotensive reactions		Headache
		mild	severe	
Before operation	1	-	-	1
During operation	-	5 + 1*	-	-
After operation	-	2	1*	1

*Xylocaine without epinephrine

The hypertensive reaction in a 60 year old male (No. 41) was no doubt an epinephrine reaction. The blood pressure rose abruptly from 120/65 to 180/90 accompanied by headache and

returned to normal after 10 minutes, at which time the headache also disappeared.

The severe hypotensive reaction was seen in a 59 year old male (No. 5) with decompensated circulation. *During operation, the blood* pressure fell from 125/100 to 85/60 and when he was moved over to bed postoperatively, a still greater fall occurred, which was relieved when he was placed in recumbent position. Checking *of analgesia postoperatively showed only saddle* area analgesia.

The milder hypotensive reactions are mainly the result of the surgical positioning of the patient and to carelessness while moving the patient postoperatively. But in two cases a rising analgesia level was partly responsible.

In the case with mild postoperative headache (No. 36) the headache began 4 hours after ad*ministration of the anesthetic agent. The head*ache was relieved completely by aspirin and did not recur.

It is impossible to find a direct connection between the observed complications and the anes*thetic drug per se. Similar complications have* long been noted with other block agents, usually with equal or greater frequency.

Discussion

Many of us are reluctant to employ block anesthesia because of numerous failures in the past. It matters not whether these failures are *due to our lack of skill or to anatomical varia*tions in the patient. Too often we feel we cannot afford to dissatisfy the patient with incomplete regional anesthesia, so he is given a general *anesthetic, even though a good block would be* adequate and safer in many situations. Two outstanding properties of xylocaine have led us to modify our own resistance to wider employment of regional anesthesia. These are its penetrating powers and its long duration of action. Because of xylocaine's penetrating power, ab*solute accuracy is not essential in placement of* the needles (eg., in brachial plexus block), nor *is it necessary to use large volumes to be assured* of proper spread (eg. lumbar sympathetic and caudal blocks). This property also makes for more rapid onset of anesthesia — an important factor to a busy anesthesiologist or surgeon.

The long duration of analgesia, even without epinephrine, is a most valuable property. It even *allows one to do two or three blocks at the same* time, then have those patients operated on in sequence for 20 minutes each, and still have good analgesia in the last patient for an hour or more after operation. Prolonged analgesia is of great *value to proctologists, who have become xylo*caine's most enthusiastic supporters to date.

SUMMARY

The study confirms earlier reports that xylocaine is the most effective agent for regional anesthesia today. We believe that xylocaine *without* epinephrine is satisfactorily effective for *most purposes and gives fewer complications than* xylocaine with epinephrine.

Practical Laboratory Evaluation of Renal Function

James P. Simonds, M.D.
Chicago

In order to understand renal function tests, to use them to the greatest advantage and to avoid errors in technique and in interpretation, it is essential that we know what the kidneys do and how they perform their various functions. It is also necessary to have available a series of tests that are sufficiently simple, accurate and practicable to be used in any adequately equipped hospital laboratory. In this paper brief attention will be devoted to some of the newer tests of renal function that are not yet practical for the ordinary hospital laboratory. These have furnished important information concerning renal function that can be used in interpreting the results of some of the older simpler tests which are thus given a new value in the diagnosis and management of diseases of the kidneys.

Briefly, each kidney consists of more than a million units, or nephrons. Each unit is complex and is composed of a glomerulus from which arises a tubule that is, in turn, divided into parts with different functions. The kidneys have an exceptionally rich blood supply, estimated by modern methods to be more than one liter per minute. Blood enters the capillaries of the glomeruli under a higher hydrostatic pressure than in any other system of capillaries in the body, and estimated to be about sixty percent of the pressure in the aorta. This pressure, minus the opposing osmotic pressure of the plasma proteins, constitutes the effective filtration pressure. Under this pressure a very dilute solution of all the crystalloids in the plasma in the same concentration in which they occur in that fluid, is filtered through the walls of the glomeruli which are impermeable to substances with large molecular weight, such as proteins. As this filtrate passes through the tubules it undergoes certain important changes. The proximal convoluted tubules reabsorb some of the crystalloids, such as sugar, and enough water to hold them in solution; Henle's loop reabsorbs water and concentrates the urine; while the distal convoluted tubules perform those functions that are concerned with maintaining the acid-base balance of the body. The kidneys are, therefore, not only organs of elimination but are also important factors in maintaining the homeostasis of the body as a whole.

The kidneys possess a large factor of safety or functional reserve. Approximately one-fourth of the total kidney substance is capable of performing all the work necessary for adequate functioning of the kidneys. Because of the large functional reserve, these organs can suffer marked damage without too greatly endangering the life of the patient. It is important to remember, however, that as soon as his functional reserve has been exceeded, renal insufficiency may develop with startling rapidity. For this reason it is important to have available tests that will indicate the degree and the rate of progress of pathological processes that may lead to death from renal failure. In the application of these tests, we do not attempt so much to determine the exact type of the pathologic process which is the cause of the insufficiency as to learn its effect upon the ability of the kidneys to perform their normal functions. Each of the different pathologic types of renal diseases — glomerulonephritis, pyelonephritis, hydronephrosis, etc. — if it runs its natural course, ends ultimately in renal insufficiency which has the same general characteristics, regardless of the exact type of underlying pathologic change. In the management of a patient with kidney disease, the determination of the degree and rate of progress of renal functional disturbance has, therefore, greater practical importance than merely giving a name to the particular type of pathologic process that is the cause of the renal failure.

Read before the General Assembly of the Illinois State Medical Society on May 25, 1950 in Springfield, Illinois.

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The newer, more complicated methods of studying the functional activities of the kidneys enable one to determine indirectly, but with a high degree of accuracy, such important factors as total blood flow through the kidneys per minute, the rate of glomerular filtration, the fraction of plasma water lost by filtration and the relative mass of functioning tubular tissue. These will be briefly described. Inulin is excreted by the glomeruli and is neither excreted nor absorbed by the tubules. Inulin clearance is, therefore, a measure of the rate of glomerular filtration. Diodrast and para-amino-hippuric acid (PAH) are excreted by both glomerular filtration and tubular excretion. When either of these substances is maintained at a constant low concentration in the blood during the period of the test it is completely removed from the plasma during its passage through the kidneys. This could not, of course, be accomplished by glomerular filtration alone. By comparing the total renal blood flow obtained by this means with the rate of glomerular filtration revealed by inulin clearance, it is possible to determine both the total amount of filtrate produced in a given time and the fraction of plasma water removed by this process. When either diodrast or para-aminohippuric acid is maintained at a high concentration, that is, at a level that exceeds the maximum capacity of the glomeruli and tubules to completely remove it from the blood, it is possible to determine the relative mass of functioning tublar tissue. These three tests — clearances of inulin and of diodrast or para-aminohippuric acid at high and low concentrations in the plasma — furnish information tion by which the relative degree to which the functions of the glomeruli and of the tubules are affected in a given patient.

Normally there is a structural and functional balance between a glomerulus and its tubule. The nephrons vary in size. A short tubule is supplied by a small glomerulus; a large glomerulus has a long tubule. Any pathologic process that upsets this balance, if sufficiently severe, will affect the product of renal activity and furnish a clue to the extent of renal disease. By applying measurements obtained from studies with inulin and PAH clearances to a variety of diseases affecting the kidneys, Earle has been able to establish a "number of fairly characteristic patterns of renal dysfunction, both organic and functional in origin." But since these tests are not available in most hospitals it is necessary for physicians to depend upon other tests in their study of diseases of the kidneys. In selecting simpler tests for this purpose an understanding of their basic principles, the ways by which they make their important revelations, the sources of error to be avoided and the meaning of the results obtained from them, are essential.

A great deal can be learned concerning the functional efficiency of the kidneys by a few very simple tests. In most hospitals every patient, upon admission, has a urinalysis as a routine procedure. This furnishes an excellent means of screening. Every patient whose urine contains albumin or has a specific gravity in the first morning specimen of less than 1.020 should have further examinations directed toward determining the functional efficiency of his kidneys. The concentrating power of the kidneys should first be tested. The greatest part of the work of the kidneys is performed in concentrating the urine and it is to be expected that here the first evidence of breakdown in functional efficiency will occur. The test is exceedingly simple and can be carried out with a minimum of inconvenience to the patient. The principle of the test is that after 14 to 16 hours of water deprivation, the kidneys, in their effort to conserve water for the body, concentrate the urine to the limit, or almost to the limit, of their capacity. The causes of the loss of power of concentration of the urine are (1) direct injury to the tubular epithelium, as by some poisons or acute infections; (2) reduction of the blood supply to the tubules due either to arteriolar disease, as in chronic hypertension, or to reduction of blood flow through the glomeruli in chronic glomerulonephritis; or (3) reduction of total blood flow through the kidneys, as in hydronephrosis and chronic pyelonephritis.

The application of this test is simple. The patient takes no water after 5 P.M. until the end of the test. Specimens are collected at 7, 8 and 10 A.M. the following morning. The quantity and specific gravity of each specimen is measured and recorded. Normally there is a variation in the specific gravity of urine secreted during the day and during the night between 1.003 and 1.025, or more. With the onset and progress of renal insufficiency the range of

specific gravities of day and night urine is narrowed. In the concentration test, a maximum specific gravity of 1.020 or less in the three specimens is indicative of some degree of renal insufficiency. The narrower the range between the minimum and maximum specific gravities, and the lower the maximum specific gravity among these specimens, the greater the degree of renal insufficiency. The maximum of insufficiency is reached when the specific gravities become "fixed" and fall within a very narrow range about 1.010.

As in all tests, there are sources of error, even in this simple one, that must be known and avoided. The patient may not co-operate fully and may take water clandestinely during the period of the test. This will invalidate any results obtained from it. Unreliable results may also be obtained in patients with edema, particularly if the edema is progressing or if the fluid is being absorbed and excreted. If the patient is markedly dehydrated the results may be misleading. Many urinometers are inaccurate and the use of such an instrument may lead to faulty results. Every laboratory should have at least one urinometer of approved accuracy, if for no purpose other than for comparison of new instruments purchased. Specific gravities should be taken on urine at room temperature. Freshly passed, still warm urines will give lower readings than those tested after cooling. The presence of albumin or sugar in urine also increases the specific gravity of the specimen, and, depending upon the quantity of albumin present, the reading may be inaccurate by 0.003 or more. Most of these sources of error can be easily avoided.

Another simple and convenient, but somewhat less safe test, determines the ability of the kidneys to excrete a highly dilute urine. It is probably incorrectly called a "dilution" test. It is hardly possible for kidneys to excrete a urine that is more dilute than the filtrate from the glomeruli. The principle of this test is that after the intake of a large excess of water, normal kidneys will excrete a large quantity of very dilute urine within a relatively short time. In the presence of renal insufficiency excretion of the excess of water takes place more slowly and the urine is less dilute than can be produced by normal kidneys. This deficiency of the kidneys appears somewhat later in the course of renal disease than inability to concentrate the urine.

In the performance of this test, the patient takes no breakfast and drinks 1200 cc. of water during a period of thirty minutes. Specimens of urine are collected at 1, 2, 3 and 4 hours after the water is taken and the amount and specific gravity of each specimen is measured and recorded. Normally almost the total quantity of water taken will be excreted during the first two hours and the urine will have a minimum specific gravity of 1.003 or less. In renal insufficiency a longer time is required for excretion and the minimum specific gravity among the four specimens will usually be greater than 1.003.

The sources of error in this test are much the same as those in the concentration test. It is especially likely to give false results in the presence of marked dehydration.

The phenolsulfonephthalein, or "PSP", test is useful and yields important information when it is properly applied and its limitations understood. This dye is eliminated by the kidneys by both glomerular filtration and by tubular excretion. Like the diodrast and para-aminohippuric acid tests, it furnishes some but less complete information concerning tubular function. The volume of urine is not a factor in calculating the amount of dye excreted, and the rate of its excretion diminishes with its concentration in the blood. The last mentioned fact explains the presence of the greater amount of dye in the first specimen as compared with later specimens derived from plasma in which the concentration of the dye is descreasing by progressive excretion.

The technique of the test is simple but must be performed with careful adherence to details. The patient is first given 400 cc. of water to drink in order to insure a free flow of urine. Twenty minutes later, 6 mg. of the dye are injected intravenously in order to avoid differences in rate of absorption. Fifteen minutes after the injection, the first sample of urine is collected. Other specimens are obtained one and two hours after the time of the injection. The percentage of dye excreted in each specimen is determined by use of a comparator or a colorimeter. Under the conditions of the test as thus performed, the first specimen should contain 25 percent of the dye injected. In all three speci-

mens up to 80 percent or more of the dye should be recovered. In renal insufficiency, the first specimen will contain less than 25 percent, and and all three specimens less than 60 percent of the dye injected. The smaller the percentage of dye eliminated, the greater the degree of renal insufficiency.

Since one of the functions of the kidneys is to eliminate the waste products of protein metabolism, renal insufficiency is accompanied by increase of nitrogenous waste products in the blood. The most important of these products are, non-protein nitrogen (NPN), urea nitrogen (BUN) and creatinine. Of this group, non-protein nitrogen and creatinine will usually give sufficient information to determine the degree of renal insufficiency. Elimination of these three substances by damaged kidneys does not parallel each other. Increase of urea nitrogen in the blood usually precedes the retention of non-protein nitrogen. For this reason, the BUN/NPN ratio may furnish useful information. The normal ratio averages about 40; a ratio up to 70 or 80 is sometimes found in severe cases of renal disease. Retention of creatinine occurs later in the course of renal insufficiency than retention of the other two nitrogenous waste products. When the creatinine of the blood is very high, that is, more than 5 mg. per 100 cc. of blood, the patient is usually in uremia or it is impending. Creatinine is excreted by glomerular filtration only in man. Creatinine clearance therefore has some resemblance to inulin clearance. Its limitations and lack of desirable accuracy are due chiefly to the fact that other substances in the blood give the same color reaction used to determine the concentration of creatinine in the colorimeter.

Urea clearance is frequently used to measure the functional capacity of the kidneys. Urea is removed from the plasma by glomerular filtration but probably not, in normal persons, by tubular excretion. It is, however, reabsorbed from the glomerular filtrate by the tubular epithelium. The amount which is reabsorbed by normal kidneys varies under different conditions and is probably dependent upon general body needs. This variability in the quantity of urea reabsorbed by the tubules constitutes one of the limitations of the test. The words "clear" and "clearance" are somewhat misleading. The results of this test are stated in the number of cc. of plasma "cleared" of urea per minute, which means the number of cc. of plasma needed to furnish the amount of urea excreted in the urine per minute. When the kidneys are not functioning competently, the urea level of the plasma will be raised and fewer cc. of plasma will be required to furnish the quantity of urea excreted in the urine per minute. Hence the lower the "clearance" the more severe the renal insufficiency.

For the urea clearance test to be of value the results must be corrected to a standard and finally stated in terms of the percent of normal. Several factors influence urea clearance and unless the results are correlated with some standard may have little significance. Among these factors are: individual variations, such as body surface; the rate of flow of urine per minute; and the level of urea in the plasma. In the application of the test, the patient completely empties his bladder; and exactly two hours (120 minutes) later the bladder is emptied again and the amount of urine measured accurately. The number of cc. of urine obtained divided by 120 gives the number of cc. of urine excreted per minute. A sample of blood is drawn one hour after the first specimen of urine is obtained. The results are calculated from the following formula:

$$\frac{\text{U.u.} \times \text{U.f.}}{\text{P.u.}} = \text{C.u.} \qquad (1)$$

U.u. = Mg. of urea per 100 cc. of urine.
U.f. = Flow of urine in cc. per minute.
P.u. = Mg. of urea per 100 cc. of plasma.
C.u. = Cc. of plasma "cleared" of urea per minute; i.e., the number of cc. of plasma required to furnish the number of mg. of urea excreted in one minute.

It is evident from this formula that the bladder must be completely emptied and that all measurements must be accurate.

The results obtained from Formula (1) must be corrected to, or correlated with, some standard of measurement. The body surface furnishes the best criterion, just at it does in determining the basal metabolic rate. This correlation is accomplished by the following formula:

$$\frac{1.73 \times \text{C.u.}}{\text{B.s.}} = \text{P.c.} : \text{a.b.s.} \qquad (2)$$

1.73 = Average body surface in square meters. a.b.s.

B.s. = Body surface of patient calculated from his weight and height.

C.u. = Cc. of plasma cleared of urea per minute.

P.c. : a.b.s. = Cc. of plasma cleared of urea per minute, 4 corrected to the average body surface of 1.73 square meters.

Since urea clearance is influenced by the rate of urine flow, it is necessary to determine what percent the results obtained from Formula (2) are of the normal clearance for the given rate of urine flow corrected to the average body surface of 1.73 square meters.

$$\frac{\text{P.c. : a.b.s.}}{\text{N.u.c.}} = \%\ \text{N.u.c.}$$

N.u.c. = Normal urea clearance, corrected for body surface, for any given urine flow per minute. This figure can be obtained from a Table to be found in a laboratory manual.*

*For example, in Manual of Clinical Laboratory Methods by O. E. Hepler.

Results obtained from Formula (1) alone are not of much value, because they do not take into consideration the two most important factors that influence urea clearance; namely, body surface and rate of urine flow. When the urea clearance of a particular patient is corrected for his body surface and compared with the similarly corrected urea clearance at the urine flow per minute of the test in question, the results have real significance. When this falls below ninety percent it signifies renal insufficiency. The lower the percentage, the greater the degree of decrease of renal function.

SUMMARY

When the admission urinalysis of a patient shows the presence of albumin and casts and the first morning specimen has a specific gravity of 1.020 or less, the efficiency of his kidneys should be determined by one or more of several available tests. Some of the newer tests, such as the clearance of inulin and diodrast or para-aminohippuric acid, yield valuable results that make possible the differentiation of the degree of glomerular and tubular efficiency. But these tests are too complicated to be practicable for the usual hospital laboratory. The best practical tests for determining the efficiency of the kidneys are: (1) concentration test; (2) diuresis or "dilution" test; (3) phenolsulfonephthalein test; (4) blood levels of non-protein nitrogen, urea nitrogen and creatinine; and (5) urea clearance test corrected for body surface and urine flow per minute. Periodic repetition of these tests will furnish information concerning the progress of the disease.

Surgical Treatment of Gastric Ulcer in the Aged

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A review of the opinion on surgical therapy in gastric ulcer reveals that the age factor is usually omitted. Routine gastric resection for benign ulcer in patients over seventy, if such is the indicated diagnosis by all the available data, is certainly not advised. However, the imperative indications for gastric resection in gastric ulcer should apply to patients over seventy, provided some unrelated complication making the operative risk too hazardous is not present. These indications are: 1. inability to rule out malignancy; 2. continued severe hemorrhage; 3. intractable pain or obstruction failing to respond to medical therapy.

The operative risks are obviously greater in the average patient over seventy (11 per cent mortality in 63 gastric resections for gastric carcinoma in patients over sixty-five at the Mayo Clinic in 1939-40[1]), but for the same reasons these patients are less able to withstand the hazards of continued blood loss and nutritional depletion incurred by the prolonged conservative treatment of the most severe complications of gastric ulcer. Compromise with malignancy is impossible regardless of age. If a patient's life expectancy can be expected to be lengthened, or his remaining days be made more comfortable, the decision as to surgery can be made solely on his ability to qualify as a reasonable operative risk considering the urgency of the indication for surgery. An individual of seventy years had in 1931 an average life expectancy of nine years and one aged eighty-seven, an expectancy of 3.5 years[2].

While reviewing all the gastric resections in patients over seventy years of age done at Wayne County General Hospital in the period from July 1, 1943 to July 1, 1949, it was of interest to us to note that in nine cases of this group the pathologist's diagnosis was benign gastric ulcer. Pertinent facts concerning these patients are outlined in Table 1. The ages of these nine patients ranged from 70 to 87, averaging over 76 years. Although unrelated diseases of major degree were present in several cases, in all patients satisfactory preoperative preparation was achieved. The probability of malignancy was a major factor in the decision for surgery in eight cases, and in one case surgery was performed because of repeated massive hemorrhages from an ulcer expected to be benign. The single postoperative death, resulting in a surgical and hospital mortality of 11 per cent, was in the last patient of this series. A large, poorly sealed off perforation in a frequently bleeding lesion which appeared to be malignant dictated removal of the ulcer in this patient. An unusually high resection was performed, as the ulcer was high on the lesser curvature. Death was apparently caused by a massive cerebral hemorrhage on the third postoperative day. This patient presented early cardiac decompensation and a severe secondary anemia on admission but both were adequately controlled before operation. Autopsy was not obtained.

In all cases at least a 75 per cent resection, with removal of the ulcer and usually a Hoffmeister retrocolic short-loop anastomosis, was done. Antecolic anastomosis was employed in the patients thought by the operator to have a carcinoma. Fortunately, in no instance was the ulcer situated so high on the lesser curvature that a choice between a Madlener-Florcken resection or a total gastrectomy had to be made. Total gastrectomy in an aged patient for a lesion of questionable malignancy would seem to carry too high an incidence of operative mortality and postoperative complications, and the Madlener-Florcken procedure, transecting the stomach below a high lesser curvature ulcer, has afforded unsatisfactory long term results according to Lewisohn[3], although Colp and Druckerman[4]

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TABLE 1

Patient Number	Age	Preoperative Complications	Preop. Days in Hospital	Reason for Operation	Postoperative Complications	Postop. Days in Hosp.	Roentgenologist's Diagnosis	Gastroscopist's Diagnosis	Operator's Diagnosis	Pathologist's Diagnosis
1	70	Hypertension, Coronary disease	25	Malignancy?	Wound disruption	25	Carcinoma	Carcinoma	Carcinoma	Benign
2	72	Diabetes, Hypertension	6	Malignancy?	None	10	Carcinoma	Not done	Undetermined	Benign
3	77	Urethral Stricture, CNS lues	18	Malignancy?	Stomal obstruction	22	Carcinoma	Lesion not seen	Benign	Benign
4	79	Severe secondary anemia, Herpes zoster	45	Severe hemorrhages, Failure medical treatment, Malignancy?	None	13	Benign, possible carcinoma	Not done	Benign	Benign
5	87	Severe secondary anemia	49	Continued bleeding, Failure medical treatment, Malignancy?	None	13	Carcinoma	Unsuccessful	Undetermined	Benign
6	75	Severe secondary anemia	10	Continued severe bleeding	None	10	Benign	Not done	Benign	Benign
7	82	High grade Pyloric obstruction	21	Malignancy?	None	15	Carcinoma	Carcinoma	Benign	Benign
8	73	None	25	Malignancy?	Pneumonia	20	Carcinoma	Carcinoma	Undetermined	Benign
9	73	Severe secondary anemia, Cardiac decompensation	25	Malignancy?	Massive cerebral hemorrhage third day	Expired 5th day	Carcinoma	Not done	Undetermined	Benign

were more gratified with the results in their series. Modifications of the Billorth I procedure would appear to merit more frequent consideration in gastric ulcer; a gastroduodenal anastomosis being more physiologic, technically less time consuming, and requiring less intra-abdominal manipulation, as recently suggested by Clagett and Waugh[5] and Fallis and Barron[6].

Measures calculated to lower mortality in geriatric surgery have been comprehensively discussed by Carp[7]. Particular attention was given to restoration of normal nutrition and replacement of blood loss in these patients, bearing in mind the contraction in blood volume noted in many chronically ill patients by Clark et al[8]. A comparatively long period of preoperative preparation in the majority of the patients usually obviated the necessity of supplementary parenteral alimentation. Tube feedings of a high caloric, high protein, liquid mixture, one and one-half to two calories per cubic centimeter, were in some cases indispensable, when a severe degree of pyloric obstruction was initially present, or when the patient refused to consume all of the diet which had been prescribed for him. A rough estimate of the duration of preoperative preparation likely to be necessary can be obtained by allowing five to seven days intensive feeding for each ten per cent of weight loss, as suggested by Varco[9].

First day ambulation, early resumption of oral alimentation, more specific methods of control of electrolyte and fluid balance, and more efficient methods of prophylaxis and treatment of pulmonary complications and thromboembolism are advances in postoperative care which have contributed most greatly to lowering of the mortality in geriatric surgery. In only three of the nine patients was parenteral alimentation employed to a significant degree after the first

postoperative day. Aged patients do immeasurably better on oral alimentation, not only because of increased caloric intake, but also because of decreased periods of immobilization incidental to the giving of parenteral solutions. Although estimation of chloride excretion in the urine, employing the method of Fantus[10, 11], is usually sufficiently informative, we, like others[11, 12], have found that a false sense of security is engendered when observing an aged patient with salt depletion in this manner. A judicious evaluation of both plasma and urine chloride levels, and plasma CO_2, is necessary in the critically ill postoperative patient[11, 12].

SUMMARY

Some current surgical opinion regarding the advisability of gastric resection for benign gastric ulcer has been reviewed. A restricted selection of cases for gastric resection in patients over age seventy is necessary. Nevertheless, carcinoma and the more serious complications of benign gastric ulcer do not become less indicative of the need for surgical therapy because the patient is aged. Due to modern advances in anesthesia and pre and post-operative care, major gastric surgery in elderly patients can be contemplated without fear of an unreasonable mortality. While the risks of surgery will be higher than the mortality considered acceptable for gastric resection for benign lesions in younger age groups, these risks are far exceeded by the dangers of delay in the treatment of the serious complications of gastric ulcer.

A small series of gastric resections for benign ulcer in patients over seventy years of age has been presented.

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The Hearts of Athletes

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Dr. Max Samter, Assistant Professor of Medicine: The subject of Professor Cure'on's presentation is a chapter of the extensive research — conducted over many years in his laboratories — on the recording and predicting of performance. It deals with "Appraisal and Guidance", as he termed it in his textbook — a standard work on the evaluation of physical fitness. It is applied here to a specific problem — the hearts of athletes*, but should contribute as well to our understanding of limitations and potential in non-athletic individuals, ourselves, and our patients.

Dr. T. K. Cureton: Some endurance athletes have large hearts compared to those in normal young men. When rated by the Ungerleider-Clark tables (based upon 72" frontal X-rays, the "full diastolic heart" at one second exposure), McKenley, for instance, shows an enlargement of + 17.0%, Phinney of + 13.7%, Rehberg of + 11.7%, but many others are within normal limits. The track men who compete in the long sprints (200, 400 m., 800 m.) and swimmers who compete in the 200 m. and 800 m. relay usually have larger than normal hearts with larger proportionate enlargement of the right transverse diameter. The transverse diameter as a whole averaged 138.0 mm. for three champion middle distance runners, 135.8 mm. for six distance runners compared to the average of 130 mm. for a control sample of forty normal young men. A correlation of 0.39 ± .102 was found between the transverse diameter and time of the all out treadmill run at 10 miles per hour, 8.6% grade in an unselected group. Hypertrophy was not present in many veteran athletes like McLane, Smith Verdeur, and Ris, all Olympic champions in swimming, but it was present in Norris (+18.9%), and sprinters Wolf (+ 18.2%) and Dudley (+ 12.3%), all Olympic swimmers on the 1948 United States team. Norris swam 1500 m. and due to an injured and deteriorated leg swam with unusual effort of the arms which undoubtedly produced intrathoracic pressure above average when stroking. If the right heart ejected its blood into the lungs against this tension, it might cause right side hypertrophy. Back strokers and breast strokers were not usually enlarged and this may reflect the more natural breathing in these events compared to longer periods of breath holding in the crawl sprints and middle distance (200, 400 m.) races. It is not believed that these enlargements are harmful and a year or two after competition such enlargements usually regress to normal according to Tanner's studies of Finnish runners.

Twenty-one 1948 Olympic swimmers averaged +1.31%, total transverse diameter 130.6 mm., left segment diameter 83.7 mm., right segment 48.4 mm. and ratio of heart volume in liters to kilograms of body weight 1/75.2 by Herxheimer's Index with his corrections. The averages are about the same for a larger group of normal young men; but champion jumpers and vaulters, hurdlers and sprinters, wrestlers and weight men are all larger in this given order than the swimmers and larger than the average of the control sample.

The right segment to left segiment ratio of 48.4/83.7 mm. for the Olympic swimmers,

*The basic data of Dr Cureton's work are presented in detail in a book now being printed and scheduled for release in June, 1951, by the University of Illinois Press, **The Physical Fitness of Champion Athletes.**

47/87 mm. for twenty track and field champions and 43/88 mm. for forty normal young men show that the athletes are hypertrophied mainly in the right segment and this may be a reflection of the effort of the right ventricle ejecting the blood into the lungs at times when the chest is constricted, thus increasing the resistance to ejection and causing more effort on the part of the right ventricle. Long distance runners are more typically enlarged on the left side and their breathing is more relaxed and full than the sprinters. It has been shown, however, that hypertrophy takes place during induced anoxemia in the decompression chamber and there is comparable anoxemia in long sprints, especially in swimming 200 m. or running 400 m.

The ECG's of top athletes commonly show arrhythmias, slurring and other irregularities, probably without being of clinical significance in view of the functional efficiency of the men. Such irregularities appear to be associated with vagotonia. Tanner (in Finland) has called attention to extreme competitive pressure resulting in tendencies toward acidity, ulcers, spastic constipation, stomach gas and disturbances in the rhythm of the heart. If the training is entirely too severe the nervous regulation may be upset and there may be associated fatigue, mental depression, loss of appetite and loss of ambition to compete, usually accompanied by evidences of staleness, such as, unusually fast pulse rate, higher systolic and diastolic blood pressures and nervous tremor. Such nervous derangement is temporary and is relieved by resting from the severest levels of competition, a change in the pattern of the work, or recreational interludes, during which ECG irregularities return to normal in a few days. These symptoms do suggest that only individuals with strong physical constitution and stable temperament can endure the top levels of competition for any period of time without showing some of these symptoms of stress. Guida (400m.) and Mathis (100 m.) in track gave the two most irregular ECG's. Both were National champions.

Low P-waves, high T and R waves, and short P-QR intervals are associated with endurance by actual treadmill running tests. No P-QR intervals greater than .22 seconds were found in 76 champion athletes and all QRS intervals were within the range of .06 to .10 seconds. No ST depression displacements were found, but in 19 cases the downward sloping leg of the R-wave is normally of lower amplitude in ectomorphs and is normally larger in high powered mesomorphs and fleshy endo-mesomorphs but the R and T waves are relatively higher in highly trained athletes except in distance runners on restricted diets. Such reduction of 1-4 mm. may be noticed after long periods of sweating on hot days following time trials. The R_V* wave correlates 0.567 ± .082 in a curvilinear relationship with heart size. The T_V wave is correlated 0.453 with the somatotype standard scores and 0.368 with the area under the Brachial pulse wave. The Brachial pulse wave correlated 0.870 with the Grollman acetylene method stroke volume. The latter is also correlated 0.527 with the R_V amplitude. These relationships suggest that the R_V and T_V waves are functionally related to stroke volume and heart work capacity except when extreme fatigue, salt and mineral depletion, or extreme alkalosis lower these waves as is sometimes seen in endurance runners.

John Marshall is an example of an athlete with a remarkable ECG. Marshall established five world's records in the six months preceding his tests. His R_V wave was 37.5 mm. in amplitude and his T_V wave was 18.6 mm. Normal young men average 24.51 and 10.26 mm., respectively. These measurements go along with one of the best Brachial pulse waves, a quiet sitting stroke volume of 90.4 cc., sitting blood pressures of 134/55 and heart volume by the Keys and Friedell equation ($V = 0.63 \times Area^{1.45}$) was 884.4^3. His heart volume by Liljestrand's equation (V = .38 × Long Diameter X Short Diameter X Depth of the Frontal X-ray) was 780 cm^3. His heart is anatomically right side predominant with the ratio of Right Diameter/Left Diameter proportional to 1/1.589. The normal young men's average by our data is 1/220. Nylin quotes an average of 300 cc. of hearing volume per square

*Actually the highest of the precordial leads was taken as the measure but lead V was highest in all but a few instances when lead IV was highest.

meter of body surface area for adults. Marshall gave 400 cc./square meter.

A well trained athlete usually has a *lean strong heart* which gives a *full range stroke and slow beat.* Hence, the Brachial pulse wave has relatively large systolic amplitude, the stroke volume is correspondingly large and there is large output for the size of the heart. There are two ways of showing this type of fitness in the heart. The first is by measuring the stroke output carefully, using the average of the two highest Grollman determinations, then calculating the ratio of Stroke Output/Volume (by Keys and Friedell, et al, equation). The top athlete range from 1/7 to 1/8 — the average is 1/10.3. This is the same as Nylin's method except that the ratio is turned upside down to show the proportionate output per unit of volume. A small heart fit can show relatively large output per unit of size. The second method is our own proposal. Since the area of the Brachial Pulse Wave per sq. m. of Body Surface Area is practically proportional to stroke volume, it can be substituted for all practical purposes for the quiet sitting stroke volume. Then the ratio becomes *Area of Brachial Pulse Wave per unit of surface area/Volume of the Heart* (Keys and Friedell, et al, equation). This ratio has given results for the best athletes from .700 to 1.200; for normal young men an average of about .500; for girls and poorly conditioned men .400 down to .100. This if the most promising method for fairly quick work without actual Grollman stroke volume determinations.

Functional tests of cardiovascular efficiency during work are superior to passive tests for rating individuals. In the quiet rested state the *Brachial Pulse Wave/ Body Surface Area* is one of the better tests and is highly related to stroke volume; also the Barach Index (Pulse Rate Times the Sum of the Blood Pressures in the Standing Position) and the Cureton Test (.62 Schneider Index + .48 Diastolic Blood Pressure) are good tests for the normal range of subjects but they are not adequate to show the top levels of circulatory capacity. It should be noted that the Cureton test is based on standard scores (available in our textbook on "Physical Fitness Appraisal and Guidance"), and low diastolic pressure is at the good end of the standard score scale. Predictions of endurance treadmill running have been as high as .60-.70 for these tests. They are about equal in predictive values at seven miles per hour, 8.6% grade. Better results have been obtained for maximal circulation determinations made *during* the run. This always involves measuring the oxygen intake and oxygen debt capacity in a treadmill run or a step test. The circulatory capacity cannot be determined except by using a hard exercise. The test for older subjects (above 35 years) and women is usually given at five miles per hour, 8.6% grade. The test for normal young men is given at seven miles per hour, 8.6% grade. The test for top athletes is given at ten miles per hour, 8.6% grade and combines high oxygen intake capacity with a low rate of oxygen debt in an all-out run. The equation for predicting time of the treadmill run with the latter is. (standard scores)

.75 (0_2 Intake in Liters per Kg.) —.46 (Rate of 0_2 Debt in Liters/Min./Kg.) Gilbert Dodds, for instance, had .0561 liters of gross oxygen intake per kilo of body weight and a net oxygen debt of 8.94 liters per minute of the run, and delivered over 30 liters of blood flow per minute and a stroke volume of 167 cc. per stroke. Tests at low rates of walking (3.5 mi./hr.) and running (5 mi./hr.) are inadequate for testing top athletes. Endurance runners and swimmers had the highest cardiovascular tests and they probably have the best cardiovascular systems in the world.

The Progressive Pulse Ratio Test.—There is another fairly good method for those who are unable to use the treadmill and gas analysis methods. This is our own modification of the pulse ratio. If the subjects are able to exercise, there is no doubting the superiority of the *Progressive Pulse Ratio Test* (12, 18, 24, 30, 36 steps per min.). The sitting pulse rate is carefully determined. Then the subject steps for exactly one minute up and down on a 17 inch stool at the rate of 12 steps per minute. Beginning ten seconds afterward the heart rate is counted with a stethoscope for two minutes. This count is divided by the sitting pulse rate. After the pulse rate has leveled off, the next rate of stepping is used. Each succeeding rate is carried out with enough rest between trials to permit the pulse rate to come back to its lowest rate. These several pulse ratios are plotted against the rates of stepping on standardized graph paper. The good athlete usually has relatively low pulse ratios at all rates of stepping and the plotted points fall in a straight line. Poorly

conditioned subjects have a larger angle of inclination with the base axis and above 24 steps per minute the slope may "break" so that the line goes more steeply upward. A large number of these tests have been given at our laboratory and the relative rating of subjects is about the same as using the oxygen intake and debt methods. There is an excellent relationship between the ratings given by the Brachial pulse wave and the Progressive Pulse Ratio Test.

There are, of course, many individuals who are not able or disposed to take oxygen intake and debt tests during endurance work on the treadmill.

In summary: What is a good cardiac response? A good heart is one which will develop a large stroke volume for its size, or per kilo of body weight or per square in. of surface area; which shows no appreciable retardation or derangements in relative timing of the P-QR or QRS phases after all out running or stool stepping; and which gives a proportionate straight line pulse ratio response to progressive rates of stepping on a 17" stool. A strong circulation is characterized by a strong Brachial pulse wave, high T_V and R_V deflections in the ECG, a large oxygen intake capacity and low oxygen debt on a 5 or 7 mile per hour treadmill run to near exhaustion. It is not always possible to make accurate ratings from tests given in the quiet state. Great confidence is attached to good endurance in a standard exercise at a fairly fast rate. No confident rating can be given to an athlete without a hard performance test being used and careful measurement of the oxygen debt, oxygen intake, respiratory quotient and speed of recovery of the pulse rate. A good heart is obviously one which will sustain a fast circulation rate and large oxygen intake and transport to the tissues needing the oxygen in a hard endurance exercise.

Dr. Robert W. Keeton: Professor of Medicine: I should like to quote and comment by sections on Dr. Cureton's summary of the characteristics of a good heart.

"A good heart is one which will develop a large stroke volume for its size."—This means that the right heart has a large input of blood and that the left heart has sufficient contractile energy to move it along with a minimal acceleration of heart rate. A slow pulse enables the coronary arteries to fill readily. Prolonged acceleration of the pulse (paroxysmal tachycardia) leads to cardiac failure.

"Which shown no appreciable retardation or derangements in relative timing of P-QS or QRS phases after all out running or stool stepping." Dr. Cureton regards that these changes which disappear after rest are to be attributed to vagotonic influences rather than pathological symptoms. Transitory changes of this nature in the hearts of patients are customarily attributed to cardiac anoxia by clinicians.

"Which gives a proportionate straight line pulse ratio response to progressive rates of stepping on a 17" stool." This indicates that under increasing work loads the pulse as measured by this test does not accelerate unduly when it is compared to the resting pulse.

I should like to replace in the summary the word "Heart" with cardiovascular system" and restate it: "A good cardiovascular system is one that can return to the heart a large volume of blood, deliver it to the arteries under increasing stress without accelerating the pulse appreciably and without showing signs of cardiac anoxia." The problem which concerns physical education is the derivation of simple tests to measure cardiovascular efficiency. Dr. Cureton has found in these athletes the maximal cardiovascular performance to which other athletes may be compared.

CASE RECORDS OF THE COOK COUNTY HOSPITAL

KARL MEYER, LEO M. ZIMMERMAN, DEPT. EDITORS

A Case of Spontaneous Evisceration Through An Umbilical Hernia

I. F. Stein, Jr., M.S., M.D. and Francis H. Straus, M.D.

A 54 year old white male, was admitted to the Cook County Hospital on May 6, 1950. He was semi-comatose and confused; therefore, only a brief history was obtained at this time. He had been hospitalized a year previously for cirrhosis of the liver at which time paracentesis was done on three occasions. He stated that the puncture sites did not heal, and that occasionally there was a gush of fluid from this area. Three days previously his abdomen felt as though something broke, and his clothes were soaked with fluid. He was unconcerned that anything serious had happened, and came to the hospital because his friends complained that he had a very foul odor.

Physical examination disclosed a thin male whose skin was cold, covered with perspiration and a deep ashen color. The chest was emphysematous. Examination of the abdomen revealed evisceration of three or four loops of small intestine some of which were infarcted and covered with a purulent exudate. (Figure 1)

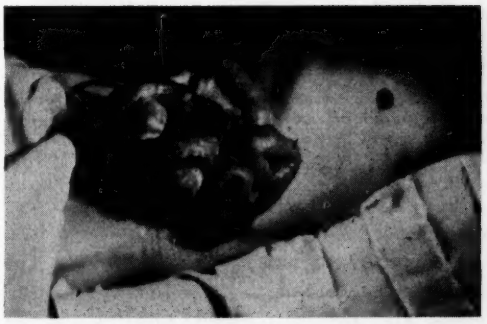

Figure 1. Appearance of the patient on admission, three days after a spontaneous evisceration through an umbilical hernia.

The temperature was 97.0° F., the pulse 110, and the respirations 30. The blood pressure was 148/80. The hemoglobin was 70%. Urinalysis showed 4 plus sugar, 4 plus acetone and 2 plus albumen.

The patient was immediately given a blood transfusion and taken to the operating room after the administration of morphine sulphate gr. 1/6 and atropine gr. 1/120. His condition at

From: Department of Surgery, Cook County Hospital, Hektoen Institute for Medical Research, Departments of Surgery, Northwestern University Medical School, University of Illinois Medical School.

this time appeared pre-terminal and we therefore planned to use only local anesthesia. After the application of antiseptic solution to the dirt-encrusted skin and of sterile drapes, the eviscerated loops of intestine were gently examined in order to ascertain the underlying pathology. It immediately became apparent that some of the loops of intestine were adherent to a sac-like structure on the under surface of the skin. The skin edges were necrotic. This manipulation caused the patient no pain, thus only oxygen was given and *no anesthetic* of any kind was administered. The mass of eviscerated, infected, necrotic and infarcted small intestine was resected en bloc, (Figure 2) and an end-to-end anastomosis performed on proximal and distal healthy intestine. The hernial sac was removed

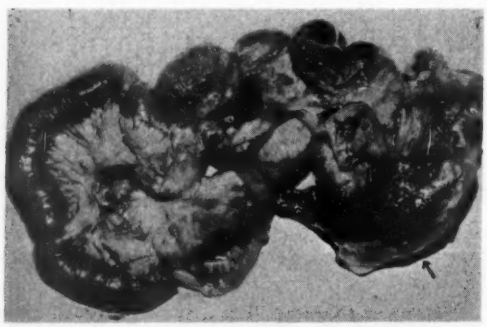

Figure 2. The resected specimen showing infected, necrotic and infarcted small intestine. Area of skin through which evisceration took place indicated by the arrow.

and the peritoneum and fascia were closed in a single layer with interrupted steel wire. The excess skin, including the necrotic edge, was removed and the skin closed with interrupted black silk. The patient was awake, although semi-stuporous, throughout the operation and experienced slight pain only at the end of the procedure when the excess skin was removed.

Following surgery the blood pressure was 160/76, the pulse 88, and the respirations 28. The skin was warm and dry. The patient had received 1000 cc. of blood before and during the operation and received another 500 cc in the next few hours. Continuous oxygen was administered and Levin suction started. He was given 40 units of regular insulin and started on 100,000 units of crystallin penicillin every three hours and 1 gram of streptomycin every six hours. Although no additional insulin was given, within seven hours the urine was negative for acetone and sugar and remained so.

The patient's general condition improved slowly during the immediate postoperative period. Testicular pressure was applied about four hours after surgery and the patient stated that this caused more pain than he had experienced at any time during the operation.

On the first postoperative day the condition of the patient was markedly improved. The rectal temperature was 100.0°F., the pulse 88 and the respirations 18. Although the patient had active bowel sounds and passed flatus, the abdomen was slightly distended and intravenous fluids and Levin suction were continued.

On the second postoperative day the patient removed his Levin tube, and got out of bed, walked to the wash room and had a loose bowel movement.

During the remainder of the postoperative period the course was uneventful other than for a transient diarrhea. Other supportive therapy included daily intravenous administration of 100 grams of aminoacids (in a 5% solution) which was given until adequate oral nutrition was assured. The patient also received daily Vitamin C and Vitamin B complex and additional blood transfusions on the third and fourth postoperative days. The skin sutures were removed on the 13th postoperative day at which time a slight wound infection was present. The patient was released from the hospital on the 17th postoperative day with minimal remaining wound infection.

The following additional history and data were obtained: the patient stated that three months following paracentesis he first noticed a mass the size of a hen's egg in the region of the umbilicus. This gradually increased to the size of a grapefruit. It was not tender at any time. The skin at the old paracentesis site had remained ulcerated, and when the patient had last seen this, about a month before evisceration, it was an inch in diameter, and was located on the inferior surface of the umbilical mass. He recently had been unable to see this area due to abdominal distention. After operation, on examination of the abdomen, it was noted that the umbilicus was no longer present.

The following pertinent data was obtained after surgery: Total protein— 6.4 gm./100 cc.; NPN — 36 mg./100 cc.; cephalin floculation — 1 plus: Thymol turbidity — 2.6; Kahn — neg.

Discussion: Spontaneous evisceration through a hernia is extremely rare. Johnson in 1901 reported a case of a ruptured umbilical hernia and lists 17 cases of evisceration following an incarcerated hernia gathered from the previous century.[1] It is likely that this condition would have been more apt to occur before the advent of the modern surgical era.

The pathogenesis of the presented case is conjectural. Undoubtedly the patient had a chronic ulceration of the skin on the inferior aspect of an umbilical hernia. On several occasions the patient had experienced a spontaneous paracentesis when ascitis fluid gushed from this ulcerated area. The patient thought that the present episode was similar to those in the past and was unconcerned. It is interesting to note that although the eviscerated bowel was badly infected and necrotic in places, there was no peritonitis within the abdomen. This was probably due to the partial plugging of the neck of the sac with prolapsed bowel and to the constant outflow of ascitic fluid which prevented gross peritoneal contamination, and in part, explains the uneventful post operative course.

The liberal use of blood and antibiotics undoubtedly were major factors in both the survival of this patient, and the satisfactory wound healing.

Summary: A case of spontaneous evisceration through an umbilical hernia is presented. The condition had been present three days and the patient appeared moribund before surgery. Without anesthesia, the eviscerated bowel was resected, an anastomosis performed and the hernia repaired. The patient made an uneventful recovery.

1. Johnson, J. L.: Trans. South. Surg. 14:257, 1901.

PLANNED PARENTHOOD PROGRAM

The program of Planned Parenthood in the United States is not a "no babies" program, and not necessarily one for limitation of family size. The main idea is for each family to plan the time of arrival of its children in accordance with the mother's health and strength, the family's economic status, and the parents' wish to give to each of the children the love and care and training that will turn them all into useful and constructive citizens. The wanted child is the aim, and the avoidance of the unwanted child who is the source of so many unlovely features of our national and family life. Within this program the large family of children, for parents wanting them and able to care for them, is highly acceptable. The houseful of children in "Cheaper by the Dozen" fits well into this picture of wanted children. But we would question the rightness of the ailing mother bringing forth a succession of ailing infants to sap her inadequate strength and die in infancy from accumulated inadequacies and familial diseases. Nor could we say much for the family on public relief for fifteen or twenty years presenting the community with a new baby every year or two as an additional burden on public relief funds. These two conditions do recur, over and over. *Excerpt: The Planned Parenthood Program, D. F. Milam, M. D., New York, J. Florida M. A., Jan.* 1951.

CASE REPORTS

Acute Hemolytic Anemia Secondary to a High Titer of Cold Agglutinins in a Case of Primary Atypical Pneumonia

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Chicago

The relationship of acute hemolytic anemia and primary atypical pneumonia has been receiving increasing attention in the literature. Because most of these cases have received sulfonamides, and since it is known that the sulfonamides alone may produce an acute hemolytic anemia, it has been difficult to establish another factor as the basis for this condition. However, cases of acute hemolytic anemia developing in patients with primary atypical pneumonia who have not received sulfonamides have been reported by Ginsberg,[1] Battaglia,[2] and Colmers and Snavely.[3]

The presence of high cold-agglutinin titers in association with primary atypical pneumonia has been reported by Peterson, Ham, and Finland,[4] Hortsman and Tatlock,[5] and Turner, et al,[6] and the hemolytic effect of these cold-agglutinins has been demonstrated by Stats and his associates.[7, 8, 9]

The mechanism of exposure and chilling of the body in the presence of high titers of cold-agglutinins with resulting hemolysis and anemia was first postulated by Daneshek[10] and Finland[11] and received its first clinical and experimental corroboration in the excellent work of Colmers and Snavely.[3]

The following case history, we believe, is another example of this mechanism since this patient received sulfonamides for only a twenty-four hour period and that was two weeks prior to the development of her acute hemolytic reaction.

CASE REPORT

A 40 year old white female was admitted to the hospital on Dec. 8, 1947, with the essential complaints of chills, fever, headache, and cough for the past four days.

From the Chicago Medical School and the Mount Sinai Hospital of Chicago.

History.—Past history revealed the usual childhood diseases; measles, mumps, chicken pox, and scarlet fever. A tonsillectomy was done at the age of 15 and an appendectomy at the age of 27. She was married and had three children. Digitalis therapy was given the patient during each of her three pregnancies. Further cardiac history, other than that she had fared well during her pregnancies, was not available.

The patient had been caring for her 16 old son who had been diagnosed as having "virus pneumonia" for about two weeks prior to her admission to the hospital. She was well until Dec. 5, 1947, when she felt lethargic during the afternoon and developed a sudden chill with a temperature of 100° F. After taking 10 grains of aspirin, she went to bed. That night she had several severe chills with a temperature of 102°F. and headaches. The following day she began to cough and experienced more chills with temperature elevation as on the night before. The cough was dry and unproductive. A physician called to the home gave her penicillin parenterally and put her on sulfonamides. The latter were discontinued within 24 hours because of nausea and after the patient had taken a total of 5 gms. of the drug. The following day, another dose of penicillin was given. The temperature, however, remained elevated. On Dec. 7, the temperature rose to 104°F. with no change in her symptoms. The next day she was admitted to the hospital.

Physical findings.—On admission, the pulse rate was 102, respirations 28, temperature 101° F., and the B. P. 110/55. Examination of the head and neck was essentially negative. There was impaired resonance and numerous moist rales in the R. L. L. posteriorly. The heart was slightly enlarged to the right and left. There were no murmurs. The abdomen, back, and extremities were essentially negative.

Laboratory findings.—X-ray of the chest, taken 24 hours after admission, revealed a pneumonic process in the lower half of the right lung field, enlargement of the right ventricle, and a hypoplastic aortic knob. On Dec. 9, the white count was 7,200 with 47% segmented forms, 29% stabs, 20% small lymphocytes, and 4% monocytes. The red count was 4,520,000 with 81% hemoglobin. The urine showed a faint trace of albumin. Kahn test was negative. A blood culture showed no growth after 5 days. A diagnosis of primary atypical pneumonia was made.

Clinical Course.—The patient continued to run a septic temperature ranging between 98° F. and 104.4° F. for the first 5 hospital days. On Dec. 10, she complained of "palpitation" of the heart and an electrocardiogram revealed the presence of a 2 to 1 auricular flutter with a ventricular rate of 130. Quinidine therapy was then started.

Over a period of 48 to 72 hours, between the 15th and the 18th of December, the nurses had noted that the patient had been voiding a dark amber colored urine. On the morning of Dec. 17, a marked pallor of the skin and mucous membranes was noted, and the patient complained of generalized weakness. A blood count taken that morning showed R. B. C. 2,230,000, W. B. C. 24,200 with 56% segmented forms, 5% stabs, 37% small lymphocytes, and 2% monocytes. That day a 500cc blood transfusion was given. Blood typing and cross agglutination tests prior to transfusion were made difficult because of the presence of cold agglutinins which were noted at room temperature. A blood count on Dec. 18 showed R. B. C. 2,330,000, Hb 36.6%, W. B. C. 40,300 with 49% segmented forms, 19% stabs, 6% metamyelocytes, 2% myelocytes, 14% small lymphocytes and 9% monocytes. There was marked hypochromia, anisocytosis, and poikilocytosis, moderate polychromatophilia, and four basophilic normoblasts per 100 W. B. C. Another 500 cc blood transfusion was given on that day and the laboratory again reported the presence of cold-agglutinins during the blood typing and cross-agglutination tests. On Dec. 21, the titre of cold-agglutinins was reported as being 1:5120. This was repeated two days later when the titre was reported as being 1:1280. The icterus index on Dec. 19 was ten units. A blood count on Dec. 25, showed R. B. C. 3,110,000 with Hb. 60.6%, W. B. C. 7,700, reticulocytes 17.8%, segmented forms 50%, stabs 7%, eosinophils 7%, small lymphocytes 30%, and monocytes 6%. A smear showed moderate anisocytosis, moderate hyprochromia, and slight polychromatophilia.

The patient began to feel better, more alert, and showed progressive improvement following the transfusions. The temperatures ranged be-

tween 98° and 100° F. at this time. An E. K. G. on Dec. 16 revealed a paroxysmal attack of auricular fibrillation in the first two limb leads and sinus rhythm with a rate of 76 in the remaining leads. She had an uneventful and afebrile convalescent course with a normal and regular pulse rate for the remaining hospital days. A blood count two days before discharge showed R. B. C. 3,430,000, Hb. 71.4%, W. B. C. 7,400, with segmented forms 67%, stabs 3%, eosinophils 8%, basophils 1%, small lymphocytes 17% and monocytes 4%.

The patient was discharged from the hospital on Dec. 31, 1947.

Treatment consisted of penicillin, streptomycin, oxygen, whole blood transfusions, iron, and other supportive measures.

SUMMARY

A case report of acute hemolytic anemia that developed secondary to an unusually high titre of cold-agglutinins in a patient with primary atypical pneumonia is presented. The literature is briefly reviewed and the current theory given for the cause of the hemolytic reaction. Repeated blood transfusions together with antibiotic therapy aided in the favorable outcome of this case. The total length of illness was three weeks.

CONCLUSION

Acute hemolytic reactions should be watched for in the presence of high titres of cold-agglutinins in acute febrile infectious diseases, especially in primary atypical pneumonia. The only therapy available to us in these acute hemolytic reactions is repeated blood transfusions. Since fragility of the erythrocytes increases with their age, the transfusions should be made with fresh blood. Chilled blood, of course, should be brought to room temperature.

Exposure and chilling in these patients must be avoided. This includes the alcohol sponge bath for skin care and high fever as pointed out by Colmers and Snavely[3], and probably also includes seldom thought of causes of body chilling such as iced drinks or low temperatures of oxygen tents. It is perhaps advisable in these cases of primary atypical pneumonia to make routine determinations of the cold-agglutinin titre in an attempt to prevent the development of this fairly serious complication.

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PATHOLOGY CONFERENCES

EDWIN F. HIRSCH, DEPARTMENT EDITOR

PRESENTATION OF TWO CASES

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St. Luke's Hospital

BRONCHOGENIC CARCINOMA INVASION OF THE OESOPHAGUS

A white male, aged 54 years, entered St. Luke's Hospital on December 9, 1949 in the care of Doctor John T. Reynolds. He had difficulty in swallowing for about five weeks and a loss of 37 pounds in weight. He also had had a cough for about one week. A diagnosis of carcinoma of the oesophagus had been made in another hospital. His clinical history had no other significant items. The physical examination disclosed a large liver and varicose veins of both legs. The blood had 4,000,000 erythrocytes and 13,450 leucocytes per cu mm. By roentgen examination he had a tumor mass of the oesophagus and oesophagoscopy demonstrated an obstructing growth 34 cms. from the teeth which in biopsy tissues was a "small celled" carcinoma. Later the patient had marked dyspnoea and in roentgen films the mediastinal shadows were increased, thought probably due to an abscess. On the 14th day in the hospital an exploration of the chest with removal of the 8th right rib demonstrated indurated mediastinal tissues, but no abscess. The region was drained. Symptoms of respiratory distress and cardiac dysfunction increased and on the 18th day in the hospital, after supportive transfusions of blood, a left exploratory thoracotomy was performed and an inoperable carcinoma involving the oesophagus, aorta, and hilum of the left lung was found. The patient grew worse gradually and died on January 12, 1950, 34 days after admission.

The essential of the anatomic diagnosis of the necropsy limited to the trunk are:

Large ulcerated bronchogenic carcinoma invasion of the esophagus;

Extensive metastatic carcinoma of the peri-oesophageal, parabronchial, biliary, superior gastric and peri-abdominal lymph nodes;

Carcinoma invasion of the mediastinal tissues and adventitia of the thoracic aorta;

Carcinoma compression of the left main bronchus, the upper branch of the left pulmonary vein and of the thoracic duct;

Right empyema of the chest;

Large mediastinal abscess, etc.

The changes of significance were in the thorax. About two-thirds of the posterior portion of the right pleural space below was obliterated by

fibrous adhesions and above was 1 liter of a serofibrinous exudate. A pocket 12 by 8 by 10 cms. below near the midline, formed by the lung displaced upward and diaphragm displaced downward, contained more than 500 cc. of a purulent exudate. Another pocket 8 cms. in dia. more medially and at the diaphragm level contained a thick purulent exudate. The left 9th rib had been resected recently, the right 8th rib sometime before. Reflection of the viscera of the trunk disclosed a mass of nodular grey tissue in the posterior mediastinum that extended from a level 3 cms. below the sternoclavicular articulation down 18 cms., was 12 cms. wide and 5 cms. thick. The mediastinal abscess below involved the base of the right lung. The aorta, on the left side of the mediastinal mass was displaced backward. The tumor tissues extended 12 cms. below the diaphragm on each side, were 6 cms. wide and 2.5 cms. thick.

An ulcerated carcinoma involving the oesophagus began at a level 7 cms. (Figure 1) below the sternoclavicular articulation and extended 14 cms. in the length of the oesophagus to the diaphragm. The wall behind had a thickness of 4 cms., mainly soft grey tissues like brain cerebrum, the channel was markedly narrowed, and the lining surface was ulcerated. Tumor tissues around the oesophagus extended into the hilum of the left lung and into the posterior mediastinum (Figure 2). They spread also to the right side. A large amount of grey tumor tissue in front of the oesophagus had spread into the hilum of the left lung. The lining of the trachea and the main bronchi was hyperemic and the lumen contained a large amount of mucopurulent secretion. The lining of the left main bronchus, especially, was hyperemic and hemorrhagic and the channel was compressed by tumor tissues in the wall. The heart with 3 cms. of aorta and pulmonary artery weighed 500 grams. There were no noteworthy changes of the valve structures or myocardium. The right lung weighed 980 grams, the left 810 grams. Medially the right lung at its base had an abscess continuous with the mediastinal absces mentioned. The remaining tissues were markedly hyperemic and edematous. The right suprarenal gland weighed 15.7 grams and in the lower pole was a metastatic tumor nodule 3.5 cms. in diameter with a recent hemorrhage. The left suprarenal gland weighed 13.5 grams but had no metastatic

Figure 1. Photograph illustrating the bronchogenic carcinoma invasion of the oesophagus.

Figure 2. Photograph illustrating the carcinoma tissues about the left main bronchus and the aorta.

carcinoma. The biliary lymph nodes had nodules of metastatic carcinoma tissues. The liver weighed 2150 grams but had no carcinoma metastases. The lymph nodes below the diaphragm and along the lesser curvature of the stomach formed a mass 6 by 6 by 4 cms. and ranged to 2.5 cms. diameter. They were infiltrated by soft tumor tissues. The lining of the stomach, the bowel, the biliary tract, the gallbladder, and the pancreas had no noteworthy changes. Accordingly, the tumor tissues, excluding those in the periaortic and other lymph nodes, were in the thorax, largely the mediastinum but encroaching upon the hilum of the left lung. Microscopic examinations of the tumor tissues demonstrated that this carcinoma was not a typical stratified squamous cell carcinoma, such as arises commonly in the oesophagus, but rather a small celled tumor arranged in large and small masses with the structure of so-called oat cell or small cell bronchogenic carcinoma. These histological features accordingly permit the conclusion that the carcinoma was bronchogenic, not esophageal, in origin, that it developed in the wall of the left bronchus, grew largely into the mediastinum and involved the oesophagus. Clinically the symptoms of this patient were those caused by the growth of the carcinoma tissues into the oesophagus and resembled a primary carcinoma of the oesophagus.

COMMENT

Bronchogenic carcinomas are now one of the commonest forms of cancerous tumors. The usual symptoms of cough, hemoptysis, a chronic infection of the lung in a patient, alert the clinician to the possibility of a bronchogenic carcinoma. But in some patients the symptoms of the primary focus do not appear or are minor, and the manifestations of the disease are those associated with metastases into structures such as the bones, the brain, the pleura, the liver, the peripheral or deep seated lymph nodes, and by extension into regional structures, as in this patient, such as the oesophagus, or compression of the large pulmonary vessels, or superior vena cava. No other primary carcinoma has the potentials of producing such a wide range of clinical manifestations. The bronchogenic origin of the carcinoma of this patient was established only by histologic examination. In retrospect the soft grey tissues of the tumor, could have offered some clue. The small celled structure of the growth in histological preparations was characteristic of a bronchial tumor and unlike a primary squamous cell carcinoma of the oesophagus.

POLYCYSTIC KIDNEYS

A white male aged 62 years entered St. Luke's Hospital in the care of Doctor Harold Steinberg on January 9, 1950, after having collapsed while at work as an elevator operator. He had been short of breath for some time, was hypertensive for 10 years, and had been under treatment for a progressive failure due to polycystic disease of the kidneys. His blood pressure was 145/90 mms Hg., pulse 90 and respirations 28 per minute. The heart was enlarged, the rhythm was irregular, and the ankles were edematous. The non-protein nitrogen of the blood was 208 mgms, the creatinine 12.2 mgms., and the blood sugar 108 mgms per cent. The alkali reserve of the plasma was 19.2 volumes per cent, and the sedimentation rate of the blood was 55 mms. in one hour. The erythrocytes of the blood were 2,410,000 per cu. mm. and the hemoglobin was 6.8 gms. per cent. Vena section and supportive therapy had no benefit and the patient died on the second day in the hospital.

The essentials of the anatomic diagnosis of the necropsy of the trunk are:

Bilateral large congenitally cystic kidneys;

Multiple congenital cysts of the liver;

Marked edema and hyperemia of the lungs;

Anasarca;

Asites, etc.

Each markedly enlarged kidney was visible through the retroperitoneal tissues and the lower pole of the left extended to 3 cms. below the prominence of the sacrum. The large polycystic right kidney was 22 by 11 by 9 cms. and weighed 1000 gms., the similar left was 26 by 13.5 by 10 cms. and weighed 1330 gms. Both kidneys (Figure 3) consisted of cysts filled with a clear limpid yellow fluid that ranged to a maximum diameter of 6 cms. The pelves, and the major and minor calyces were widely dilated. The liver weighed 1820 gms. (Figure 4). Under the smooth capsule and in the deeper portions were multiple cysts ranging to 2.5 cms. dia. The cysts, although numerous, comprised only a small portion of the total tissues. The heart with 2 cms. each of pulmonary artery and aorta weighed 610 gms. The chambers were dilated and the myocardium was moderately hypertrophied.

Figure 3. Photograph of the capsular surface of the polycystic kidneys.

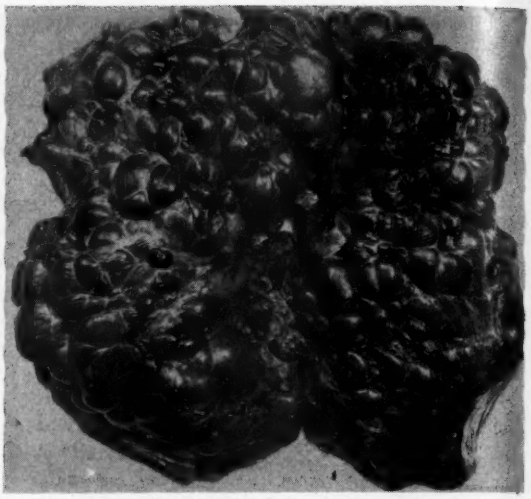

Figure 4. Photograph of the surfaces made by hemisecting the polycystic kidneys.

There were no fibrous scars or valvular lesions. Both lungs were markedly edematous and hyperemic. The right weighed 1000 gms., the left 1110 gms.

COMMENT

Most of the patients with polycytic disease of the kidneys seek medical care because of renal insufficinecy. Hematuria, malaise, vague abdominal discomfort or distention, and symptoms of hypertension or renal insufficiency occur. Occasionally infection complicates the basic disease. The disorder occurs about equally in both sexes, at all ages, and for many years heredity has been known to be important. Members of one and of several generations of a family have had the disease. Disturbances in the development of the kidneys are considered the cause, and commonly other malformations of the body are found. The liver frequently has similar cysts, and occasionally becomes a huge multicystic structure. Progressive renal failure results from the pressure atrophy of the functional parenchyma by the slow increase in the size of the cysts.

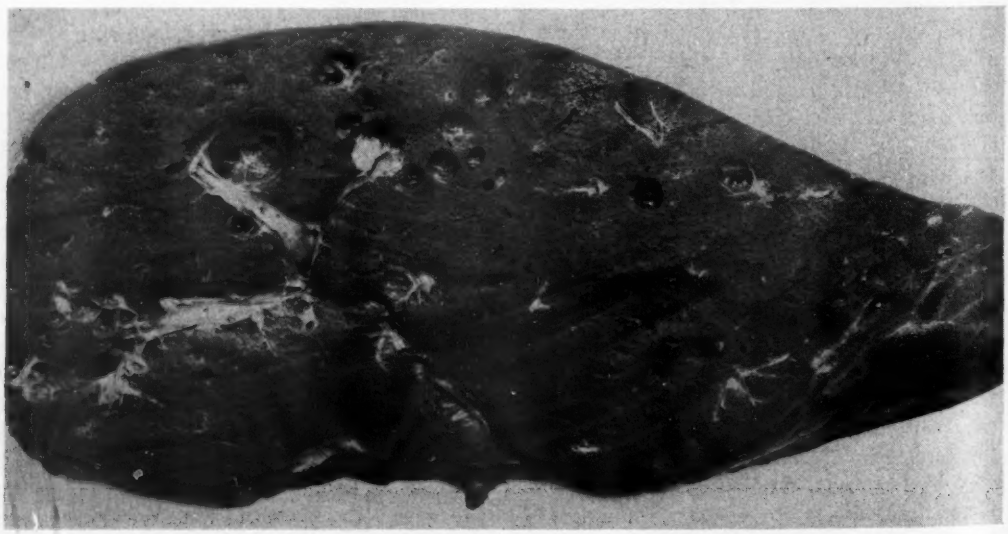

Figure 5. Photograph illustrating the cysts of the liver.

NEWS OF THE STATE

CHAMPAIGN

Society News.—At a meeting of the Champaign County Medical Society, January 11, in Champaign, Dr. Geza de Takats, Chicago, professor of surgery, University of Illinois College of Medicine, spoke on "Peripheral Vascular Disease."

Resolution Honors Physician.—A resolution honoring the late Dr. James S. Mason, Urbana, was adopted by the Rotary Club of Urbana recently. The physciian was a charter member of the group.

CHRISTIAN

Hospital Staff Election.— Dr. R. M. Seaton, Morrisonville, president of the St. Vincent's Hospital staff, succeeding Dr. L. C. Young, Taylorville. Other officers are Dr. O. H. Lowder, Stonington, vice president; and Dr. J. H. Scofield, Taylorville, secretary.

New Officers.—The Christian County Medical Society recently elected Dr. R. M. Seaton, Morrisonville, president; Dr. F. W. Siegert, Pana, vice president; Dr. W. S. Miller, Assumption, secretary-treasurer; Dr. G. W. Arends, Taylorville, assistant secretary-treasurer; and Drs. L. H. Miller, Pana; N. C. Huss, Assumption and J. H. Scofield, Taylorville, censors. Dr. W. A. Monaghan, Taylorville, was elected delegate to the Illinois State Medical Society, and Dr. Seaton, alternate.

COOK

Personal.—Dr. S. H. Armstrong, chairman of the department of medicine, Presbyterian Hospital, addressed the monthly meeting of the Medical Society of Milwaukee County, Milwaukee, recently on "ACTH."—Dr. Joseph Shanks was recently appointed to the consulting staff of Walther Memorial Hospital in ear, nose, throat and bronchoesophagology. —Dr. Alfred S. Strauss, senior attending surgeon at Michael Reese and Mount Sinai Hospitals, was recently named "Alumnus Summa Laude Dignatus." by the University of Washington.—Dr. Hans Popper, associate professor of pathology in Northwestern University's Medical School, has been appointed to the editorial board of "Gastroenterology," scientific publication.

He will aid in selection of articles appearing in the publication. Dr. Popper also is director of the pathological laboratories at Cook County Hospital in Chicago.—Dr. William B. Wartman, chairman of the department of pathology in Northwestern University's Medical School, has been elected a trustee on the American Board of Pathology.

As a member of the Board of Trustees, he also will serve as assistant secretary in the group which approves licenses for specialists in pathology.

Dr. Wartman, who holds the Morrison Professorship of Pathology at Northwestern, also is director of laboratories at Wesley and Passavant hospitals in Chicago.

Society News.—The Chicago Rheumatism Society was addressed January 31 on "Physicochemical Response of Articular Structures to ACTH and Cortisone." The speakers were Drs. Norman R. Joseph, C. I. Reed, Irving E. Steck and Max M. Montgomery. The discussion was carried on by Dr. Victor Guillemin Jr.—Dr. Robert S. Berghoff, Chicago, will conduct a heart clinic April 25, and give a series of lectures on "Coronary Disease" before the London, Ontario Academy of Medicine.—Dr. Eugene F. Lutterbeck recently addressed the Illinois Radiologi-

cal Society, in Rockford, on "Contact Roentgen Radiation."—The Chicago Society of Physical Medicine and Rehabilitation sponsored a group of demonstrations at Cook County Hospital, February 28. The instructor was Dr. Disraeli Kobak. The program consisted of "Clinical Demonstration of Electrophoresis for Relief of Pain, Spasm and Vascular Disturbances" and "Endogenous Effect of Short Waves on the Hormone State."

Special Lectures.—Dr. Alvin F. Coburn, director of research, the Rheumatic Fever Research Institute, Northwestern University Medical School, delivered the twenty-seventh Lewis Linn McArthur Lecture of the Frank Billings Foundation of the Institute of Medicine. His subject was "The Host Problem in Rheumatic Fever." The tenth Edwin R. Kretschmer Memorial Lecture will be delivered at the Palmer House, April 19, by Dr. Sidney Farber, assistant professor of pathology, Harvard Medical School, subject to be announced.—"Psychiatry and Medicine" was the title of the lecture given by Dr. Karl Menninger, Topeka, Kansas, for the second annual Maurice Oppenheim Memorial Lectureship recently. The lecture was sponsored by the Alpha Rho Chapter, Phi Lamba Kappa, Chicago Medical School.—"Are You a Diabetic?" was the title of a lecture given by Dr. Howard Root, past president of the American Diabetes Association, February 20. The lecture was offered free as a public service of the Chicago Diabetes Association.

Memorial Service for Dr. Evans.—On February 4, commemorative services were held for Dr. John Evans, physician, railroad builder, first territorial governor of Colorado, and a founder of two universities, including Northwestern. President James Roscoe Miller, Northwestern, among other speakers, spoke on "Dr. John Evans, An Appreciation."

Physicians Honored.—Two Arlington Heights physicians, with a total of more than a century of practice behind them, (were) honored by the Arlington Heights Chamber of Commerce at its annual meeting February 20.

Special commemorative plaques presented to each man praised their long service to the community and expressed the appreciation of the town for their devotion to duty.

One of the plaques went to Dr. Edward A. Elfeld, Arlington Heights, graduated from the Medical College of Missouri in 1891 and settled in Arlnigton Heights in 1902 after practicing in German Valley and Chicago. The second went to Dr. Bruce T. Best, Arlington Heights, who has practiced there since he was graduated from Rush Medical College in 1904. A third plaque was presented to Mr. George Klehm, who has served 30 years on the Village Board and for long periods in other Village governmental units.

The address of the evening was delivered by Dr. Pliny R. Blodgett of Chicago Heights, councilor of the Chicago Medical Society, who paid warm tribute to Dr. Elfeld and Dr. Best and congratulated the Chamber for its action.

Award Goes to Clifford Grulee.—Dr. Clifford Groselle Grulee, Evanston, was honored at a medal award luncheon, January 31, at the Hotel Biltmore. Presentation of the annual Parents' Magazine Medal Award for Outstanding Service to Children was made to Dr. Grulee by George J. Hetch, publisher of the magazine and president of Parents' Institute, Inc. Guest speaker at the luncheon was Dr. Howard A. Rusk, professor and chairman of the department of physical medicine and rehabilitation, New York University-Bellevue Medical Center.

In making the award, Mr. Hetch cited Dr. Grulee's work as pioneer and leader for more than forty-five years in the field of pediatrics. He drew attention to the fact that Dr. Grulee was intrumental in founding the American Academy of Pediatrics and in supervising its various projects and studies. He also noted Dr. Grulee's activities as former editor of the Journal of Pediatrics and as author of three standard texts for pediatricians. One of these, Infant Feeding, completely revolutionized infant feeding concepts. Later, Dr. Grulee collaborated with Dr. Heyworth Sanford in a study of breast feeding versus bottle feeding and became a leading exponent of return to breast feeding for infants.

Mention was also made of Dr. Grulee's initiative in starting the first Infant Welfare Stations in Chicago with Dr. Henry Helmholtz. The movement has since grown into a widespread chain of Infant Welfare Stations throughout the area with Dr. Grulee as one of its directors.

Changes in Faculty at Chicago Medical School.—Dr. Harold S. Feinhandler has recently been promoted to instructor in the department of ophthalmology, Chicago Medical School. New appointments include:

Dr. Rudolph B. Edelstein, graduate of the University of Chicago and Rush Medical College, has been made instructor in the department of gynecology and obstetrics.

Dr. Colbert Smith Davis, who has served on hospital staffs in this country and in England, has been named assistant in the department of orthopedic surgery. Medical degree from Meharry Medical College, Nashville, Tenn.

Dr. Stanley E. Telser, M.D. from the University of Illinois, will be an associate in the department of medicine.

Dr. Jerome S. Beigler, M.D. University of Michigan, clinic staff member of Michael Reese Hospital and until recently Psychiatric Consultant for Illinois Division of Vocational Rehabilitation, will be associate in the department of neurology and psychiatry.

Dr. William O. Ackley, alumnus The Chicago Medical School, has been named assistant in department of anatomy. Dr. Ackley is on the staff of Swedish Covenant Hospital.

Dr. Samuel O. Zaidenberg, graduate Loyola Medical School, who has taught in Loyola University and Mount Sinai Hospital clinics, has been

appointed assistant in the department of gynecology and obstetrics.

Dr. **Moshe Lev,** who holds degrees from the Universities of Liege and Brussels in Belgium and the University of Lausanne in Switzerland, and is on the staff of Mount Sinai Hospital, has been made assistant in the department of pediatrics.

Dr. **Maxwell M. Corbett,** alumnus of The Chicago Medical School, has been named assistant in the department of orthopedic surgery. He did post graduate work at Cook County Graduate School and served on staffs of several Chicago hospitals, including Norwegian American, Walther Memorial and Alexian Brothers.

Dr. **Kimbell Ross-Duggan II,** M.D. Loyola University, who has been on the faculty of Loyola University Medical and University of Illinois, has been appointed assistant in neuro-surgery in the department of surgery.

Grant Subsidies on Bone Marrow.—The U. S. Air Force recently gave Northwestern University Medical School a grant of $22,275 to aid in a study of the effects of atomic radiation on bone marrow. The two-year research program will be directed by Dr. Howard L. Alt, associate professor of medicine at the medical school, with the assistance of Dr. John A. D. Cooper, assistant professor of chemistry (medical).

Scholarship on Nephritis.—The Chicago League for Nephritic Children announces the establishment of a Fellowship in the department of pediatric research, Michael Reese Institute for Medical Research, Michael Reese Hospital. Those interested should write to Dr. B. M. Kagan, Director, Department of Pediatric Research, Michael Reese Hospital, Chicago 16.

Scholarship in Occupational Therapy.—Scholarship awards for the training of students in occupational therapy have been established at the University of Illinois College of Medicine by the Illinois Association for the Crippled.

An initial contribution of $300 has been made to this fund. The scholarships are to be given to needy and deserving students who have reached their final year of study in the occupational therapy curriculum.

The Illinois Association for the Crippled, Inc., is the Easter Seal agency which maintains five treatment centers in downstate Illinois. The Association was established in 1937 for the purpose of carrying on different phases of direct service programs for crippled children.

Occupational Therapy Established in Private Department.—Occupational Therapy will operate as an independent department in the University of Illinois College of Medicine with respect to its teaching functions, according to an announcement by Dr. Stanley W. Olson, dean of the medical school. Miss Beatrice E. Wade, head of the newly-created department of occupational therapy, will continue to be reponsible under the guidance of an advisory committee for the administration of the curriculum. The head of each clinical service in the Research and Educational Hospitals which utilizes Occupational Therapy will continue to be responsible for the direction of the treatment provided for patients committed to his care.

The treatment units in occupational therapy will continue to serve as laboratories of learning for the occupational therapy student. The head of each clinical service will have joint responsibility with the head of the Department of Occupational Therapy for affording and developing opportunities for the effective use of occupational therapy in the interest of the educational program.

The occupational therapy curriculum was established at the University of Illinois College of Medicine in 1943, and was accredited by the Council on Medical Education and Hospitals in 1944. In this curriculum, students spend three years at the Urbana campus of the University, and 16 months at the University's Chicago Professional Colleges. Every graduate of this course has passed successfully the national examination—a record that is unique among the 26 occupational therapy schools in the country.

New Teaching Affiliation.—An affiliation has been consummated between Grant Hospital and the University of Illinois College of Medicine for the purpose of stimulating clinical teaching and organized research programs at both institutions.

Announcement of the affiliation has been made jointly by Hans S. Hansen, administrator of Grant, and Dr. A. C. Ivy. The agreement has been approved by the Board of Directors of the hospital, and by the Board of Trustees of the University.

The affiliation is expected to be mutually beneficial to both institutions. The affiliation will give Grant Hospital a university connection and will enable it to further develop its teaching and research programs. The University through its affiliation with a community hospital will be able to expand its teaching facilities and will have available a private institution for the use of its professional staff members.

Under terms of the affiliation, all members of the present staff at Grant Hospital will continue in their present capacities. New appointments to the professional staff will be correlated by the University and Grant Hospital.

The Board of Directors of Grant Hospital will retain all of its present authority over the administrative, physical and professional aspects of the hospital. The University will have representation on the Board.

Grant Hospital, a private institution located at 551 Grant Place, was founded in 1883 as the German Hospital of Chicago. The name was changed during World War I.

The hospital has 236 beds for adult patients plus 45 bassinets. Grant also operates an outpatient clinic which during 1949 had 17,720 patient visits. Of that number, 10,296 visits were handled at no cost to the patient.

Seminar on Nursing.—A five-month seminar on nursing services administration, designed to develop the best nursing administration curriculum, opened January 15 at the University of Chicago under a $100,000 grant to the university from the W. K. Kellogg Foundation. The seminar plans, developed November 3-4 at a conference in which delegates from 12 major universities and a number of government and public health agencies participated, were summarized by Herman Finer, director of the project and professor of political science at the University of Chicago. Two ranking nursing administrators or educators from each of the major universities, government health agencies and the armed forces nursing services will be invited to participate in the program of seminars and research. "At present, there is not only a lack of well-trained nursing administrators, but also a lack of well-trained educators of nursing administrators," Mr. Finer said in reviewing findings of the preliminary conference.

"There is a need to improve administration of nursing through all levels of professional and non-professional nursing services. The urgency is felt particularly with the rising standard of medical service the nation demands, the rapid application of new scientific discoveries, and the nation's mobilization for defense," he said. Emphasis was placed, at the conference, on the necessity of educating top level administrators as a first step in the improving of nursing administration generally. The problems to be solved include: the determination of the best allocation of time between classroom instruction and in-service training, the type of curriculum in nursing administration, the personnel required to teach nursing administration and to supervise in-service training, and the degree of democratic organization which can be obtained in nursing. Under the Kellogg Foundation grant, authorities in the administrative, medical and nursing fields will be invited to participate in seminar procedures. Funds to defray the tuition and living expenses of persons attending the seminar from participating universities and government health agencies are also provided under the grant. The Kellogg Foundation also made known that as part of these plans it would consider financially aiding in the further development of programs of study in each university, as each implemented the seminar findings in its own judgment and the use of its local resources.

DEWITT

Society Election.—Dr. E. M. Thompson was recently chosen president of the Dewitt County Medical Society; Dr. C. S. Bogardus, vice president; and Dr. H. L. Meltzer, secretary-treasurer.

DOUGLAS

New Officers.—Dr. Philip Deaver, Tuscola, was recently elected president of the Douglas County Medical Society, succeeding Dr. G. A. Jones, Arthur. Other officers include Dr. M. J. Reilly, Arthur, vice president; and Dr. E. S. Allen, Arcola, secretary.

FORD

Election of Officers.—Dr. Earl C. Bucher, Gibson City, was recently reelected president of the Ford County Medical Society; Dr. Martin D. Peterson and Dr. Gene M. Noble, both of Paxton, vice president and secretary-treasurer, respectively; and Dr. Clyde A. Rullison, Roberts, was chosen delegate to the Illinois State Medical Society, with Dr. Bucher as alternate.

FULTON

Society News.—Dr. Floyd Barringer, Springfield, addressed the Fulton County Medical Society, February 1, in Canton, on "The Neurosurgeon and the General Practitioner."

IROQUOIS

Staff Election.—Dr. R. A. Buckner, Gilman, was elected president of the Iroquois Hospital medical staff recently. Other officers chosen were Dr. E. L. Roberts, Watseka, vice president; and Dr. R. F. Donovan, Watseka, secretary-treasurer.

JEFFERSON-HAMILTON

New Officers.—The Jefferson-Hamilton County Medical Society held a joint meeting recently with the Woman's Auxiliary at which time the following officers were elected: Dr. Marshall Hall, president; Dr. Claire M. Dixon, vice president; and Dr. Harry G. Thompson, secretary-treasurer. All are of Mount Vernon. Dr. Isadore Zapolsky, Elgin, newly appointed medical superintendent of the Mount Vernon State Tuberculosis Sanitarium, was guest speaker.

KANE

Personal.—Dr. Herbert M. Stanton has been reappointed chief of staff at St. Charles Hospital.

KANKAKEE

Societies Choose New Officers.—Dr. O. A. Phipps, Manteno, was recently elected president of the Kankakee County Medical Society. Other officers of the county society are Dr. Ray Nourie, vice president; Dr. A. L. Nickerson, secretary-treasurer; Dr. Albert Nehf, censor, and Dr .Charles Allison, delegate to the Illinois State Medical Society. —Dr. H. P. Swartz is the new president of the Kankakee City Medical Society, with Dr. Reno Ahlvin, vice president. Dr. Nickerson is secretary-treasurer and Dr. R. E. Bedard, trustee.

KNOX

Society News.—The Knox County Medical Society was addressed January 18, in Galesburg, by Dr. Paul H. Holinger, Chicago, on "Bronchial Obstruction: Its Physiology and Pathology."—The society held its regular monthly meeting December 21 in Galesburg. Because of illness, the scheduled speaker was unable to appear. A brief business meeting was held and two physicians were elected to membership in the society: Dr. Frances B. Kapusinski, Galesburg; and Dr. Mavis H. Schraudenbach, Altona.

MC HENRY

Personal.—Dr. William Hepburn, Ringwood, was honored at a dinner recently in observance of his seventy-seventh birthday.

MACON

Health Commissioner Resigned.—Dr. P. A. Steele, city commissioner of public health and safety for the last eight years, announced that he would not seek reelection, according to the Decatur Review. He said he planned to return to the private practice of medicine.

Society News.—Dr. John B. O'Donoghue, clinical professor of surgery, Stritch School of Medicine of Loyola University, discussed "Acute Abdominal Emergencies" before the Macon County Medical Society, January 25, in Decatur.

PEORIA

Personal.—Dr. Robert M. Sutton, Peoria, has resigned as president of the Peoria Municipal Tuberculosis Sanitarium, newspapers reported recently. Other resignations include those of Dr. Dan Morse as medical director and superintendent; Dr. Peter B. Bianco, as assistant physician; and Dr. A. Baccalao, as resident physician.

ROCK ISLAND

Society News.—Dr. D. C. Campbell, Rochester, Minnesota, discussed "Recent Developments in Hematology" before the Rock Island County Medical Society, in Moline, February 13.

SALINE

Society Elects Officers.—At a recent meeting of the Saline County Medical Society, Dr. W. D. Tuttle, Harrisburg, was elected president; Dr. G. E. Kachele, Carrier Mills, vice president; and Dr. B. E. Montgomery, Harrisburg, secretary-treasurer.

SANGAMON

Society News.—"Another Aspect of Conservation in Pelvic Surgery" was the title of a talk by Dr. George H. Gardner, Chicago, before the Sangamon County Medical Society, February 1.

UNION

Personal.—Dr. R. C. Steck has taken over the activities as superintendent of the Anna State Hospital, succeeding Dr. C. D. Nobles who retired recently.

WHITE

Society Election.—Dr. J. Z. Stanley, Carmi, was elected president of the Dwight County Medical Society, at a meeting January 16, succeeding Dr. J. G. Harrell. Other officers are Dr. Clayton Curtis, Grayville, vice president; and Dr. Charles Rosenberg, Norris City, secretary-treasurer.

WILLIAMSON

Rotary Honors Physician.—*The Rotary Club of* Johnston City devoted its regular meeting, January 10, to honoring Dr. J. W. Clayton on his seventy-sixth birthday. Dr. Clayton began his practice in Johnston City in 1904 after graduating from St. Louis University School of Medicine.

WINNEBAGO

Society News.—Dr. K. A. Lofgren, Rochester, Minnesota, addressed the Winnebago County Medical Society, February 13, on "Treatment of Varicose Veins."

Personal.—Dr. Ward P. Burdick has been reappointed as county physician and superintendent of the Winnebago County Hospital.

HEALTH DEPARTMENT ACTIVITIES

Advisory Committee Appointments.—Governor Adlai E. Stevenson on January 24 announced appointment of two physicians to the Advisory Committee of the Division of Cancer Control in the department of public health. They are:

Dr. Robert E. Bowen, Springfield, for a term expiring September, 1952. He succeeds Dr. John A. Wolfer, Chicago, who resigned. Dr. Bowen is the son of the late A. L. Bowen, former director of the Department of Public Welfare.

Dr. James P. Grier, Evanston, for a term expiring in July, 1953. He succeeds Dr. Everett P. Coleman, Canton, whose term expired.

Both appointments are subject to confirmation by the General Assembly.

Provisional Report on Communicable Diseases.—Decreases in the number of cases of most major communicable diseases highlighted the public health picture in Illinois last year according to Dr. Roland R. Cross, state director of Public Health.

Of the 29 major communicable diseases reported to the state department of public health, provisional statistics showed that 19 decreased from the 1949 total. The number of cases of three diseases was the same, while seven diseases were more prevalent.

Among diseases on the decline during 1950, scarlet fever dropped from 3,991 cases in 1949 to 2,112 last year; polio fell from 2,910 to 1,928; mumps cases reported were 1,300 less and cases of chickenpox declined by 3,665.

Typhoid fever fell to a new low of 69 cases as against 101 in 1949. Tuberculosis cases numbered 7,673 — less than had been reported in any year since the health department inaugurated its extensive program of free chest x-raying to detect this disease.

For the third consecutive year there were no reports of smallpox.

Measles showed the greatest increase last year, with 18,528 cases being reported as compared to 5,820 in 1949. This follows a rather well defined pattern of a high incidence of this disease every other year.

Amebiasis reached a new ten-year high of 639 cases. In 1949 there were 442 cases and the low figure of the last decade was 177 cases reported in 1944.

There were also slight increases in influenza, diphtheria, and meningitis.

GENERAL

Society News.—The Illinois Chapter of the American Academy of General Practice will hold its annual meeting at the Sheraton Hotel, Chicago, October 14-16.

Surgeons Create Illinois Chapter.—The Illinois Chapter of the American College of Surgeons was organized at a recent meeting in St. Louis. Officers include Dr. Mather Pfeiffenberger, Alton, president; Dr. Robert Patton, Springfield, vice president; and Dr. Kent Barber, Quincy, secretary-treasurer. Councilors named include Dr. Willis I. Lewis, Herrin, Dr. J. C. Thomas Rogers, Urbana, and Dr. Alfred B. Owen, Rockford.

Dr. Bailey Heads Mental Research.—Dr. Percival Bailey, prominent Chicago neurologist and a nationally recognized leader in his field, has been appointed chief of research in the state department of welfare's mental hospitals, a newly created position designed to expand and integrate research currently in progress. Dr. Bailey, professor of neurology and neurosurgery, University of Illinois Research and Educational Hospitals, who assumed his duties in the research position, January 1, will divide his time between the two posts.

Research Society News.—*Dr. Anton J. Carlson,* Professor Emeritus of Physiology of the University of Chicago, *was re-elected president of the National* Society for Medical Research at its annual meeting on February 11, 1951. Dr. Andrew C. Ivy, Vice-President and head of the Chicago Professional Colleges of the University of Illinois, was re-elected Secretary-Treasurer. Approval and authorization for the undertaking of two new projects was given at the meeting by the Board of Directors. One of these is the publication of a book summarizing the contributions of animals to medical progress and the welfare of human beings. The book will be illustrated with photographs. The other project is the production of a series of thirteen television films which will be based on real life visits to outstanding scientific institutions throughout the country.

DEATHS

MARIE D. BERGEN, Oak Park, who graduated at Hering Medical College, Chicago, in 1913, died January 16, aged 73.

ASHLEY M. BRAND, Chicago, who graduated at Northwestern University Medical School in 1935, died December 29, aged 46.

CALVIN EDGAR BROWN, Chicago, who graduated at Bennett College of Eclectic Medicine and Surgery in 1906, died in the Norwegian American Hospital November 21, aged 71.

CARL W. CARLSON, Woodhull, who graduated at Rush Medical College in 1903, died January 6, aged 80. He had been practicing medicine in Woodhull since 1907.

GEORGE ASBURY CONREY, Chicago, who graduated at Bennett Medical College in 1912, died November 29, aged 69.

NEVEDA C. COOPER, retired, Dupo, who graduated at Barnes Medical College, St. Louis, in 1902, died December 28, aged 84.

PETRA DAHL, Chicago, who graduated at Chicago College of Medicine and Surgery in 1916, died January 24, aged 75.

JOHN H. EDGCOMB, SR., retired, Ottawa, who graduated at the University of Illinois College of Medicine in 1906, died in an automobile accident, February 12, aged 66. He had been a member from LaSalle County of the House of Delegates of the Illinois State Medical Society for many years.

LEO I. GRADMAN, Chicago, who graduated at Chicago Medical School in 1918, died February 8, aged 61.

THEOPHIL J. HOLKE, Freeport, retired, who graduated at Washington University School of Medicine, St. Louis, in 1899, died December 30, aged 74. He was a member of the Illinois State Medical Society "Fifty Year Club."

LAWRENCE LEE ISEMAN, Chicago, who graduated at Johns Hopkins University School of Medicine in 1906, died January 31, aged 71.

WALTER W. MCCABE, Chicago, who graduated at Northwestern University Medical School in 1919, died February 5, aged 66.

JAMES STEPHEN MASON, Urbana, who graduated at Northwestern University Medical School in 1894, died January 8, aged 82. He was a member of the Illinois State Medical Society "Fifty Year Club"; in 1948 he was awarded the honor of outstanding medical practitioner for Champaign County Medical Society.

HERMAN FRANK MAY, retired, Chicago, who graduated at University of Buffalo School of Medicine in 1909, died January 12, aged 68.

CHARLES CONRAD MILLER, Chicago, who graduated at Hospital College of Medicine, Louisville, Ky., in 1902, died November 25, aged 69, of coronary thrombosis.

LOUIS A. MINNER, retired, Carbondale, who graduated at St. Louis College of Physicians and Surgeons in 1898 and Jefferson Medical College of Philadelphia in 1900, died January 18, aged 90.

FREDERICK W. MOELLER, Chicago, who graduated at Northwestern University Medical School in 1906, died December 28, aged 73. He had practiced medicine in Chicago for forty years.

CLARENCE A. NEYMANN, Chicago, who graduated at Universität Heidelberg Medizinische Fakultät, Baden, Germany, in 1914, died January 12, in St. Petersburg, Florida, aged 63. He was chief of staff of Cook County Psychopathic Hospital and associate professor of psychiatry at Northwestern University Medical School.

JAMES H. PITTMAN, Camp Point, who graduated at Rush Medical College in 1901, died January 29, aged 72. He had practiced medicine in Camp Point for 48 years.

MAURICE L. PUFFER, Downers Grove, formerly of Waynesville, who graduated at the Hahnemann Medi-

cal College and Hospital, Chicago, in 1907 and University of Illinois College of Medicine in 1909, died December 29, aged 78.

EDWARD H. RATEGAN, Chicago, who graduated at the University of Illinois College of Medicine in 1913, died January 19, aged 60. He was a captain in the medical service corps, World War I.

ARTHUR B. STORM, retired, Windsor, who graduated at Barnes Medical College, St. Louis, Mo., in 1898, died January 24, aged 79. He had practiced medicine in Windsor over 50 years.

MARK F. TODD, Springfield, who graduated at the University of Michigan Medical School, Ann Arbor, in 1942, died January 29, aged 35.

JOSEPH W. WALTON, retired, Homer, who graduated at St. Louis University School of Medicine in 1906, died January 17, aged 82. He had practiced medicine 42 years, first in Clay City, then in Homer.

CLARENCE V. WARD, SR., Peoria, who graduated at St. Louis University School of Medicine in 1919, died January 27, aged 60.

HYMAN YANOFSKY, Chicago, who graduated at Chicago Medical School in 1920, died November 30, aged 62.

"FOR THE COMMON GOOD"

Health Talk on TV.—Since the last issue of the *Illinois Medical Journal*, the following telecasts have been presented by the Educational Committee over WGN-TV, Channel 9; Monday evenings, at 8:30 p.m.

Arthur W. Fleming, January 29, Cerebral Palsy.

Claude N. Lambert and Miss Pearl Wittmack, R.N., February 5, Application of a Cast.

Mitchell A. Spellberg, February 12, How's Your Colon. **Clay-Adams Company** cooperated in providing equipment.

William P. Swisher, February 19, on Your Basal Metabolic Rate. **Clay-Adams Company and Sanborn Company** cooperated in providing equipment.

Your Doctor Speaks over WFJL, Thursday evenings, at 7:30, carried the following transcribed broadcasts under the auspices of the Educational Committee:

Gordon H. Rovelstadt, D.D.S., February 1, Your Child's Dental Care.

Beulah Cushman, February 8, "Cross Eyes."

Edward F. Rosenberg, February 15, Arthritis.

Hugh A. Flack, February 22, Coronary Thrombosis.

You and Your Baby over Station WAAF, Tuesday mornings, at 10:30 a.m. carried the following live broadcasts; this series is being repeated:

L. Martin Hardy, January 23, Questions Parents Ask.

Harry H. Boyle, January 30, The Baby at Six Months.

James A. Conner, February 6, Growth and Development.

Lawrence Breslow, February 13, Enjoy Your Baby.

Here is Your Doctor over Station WCFL, Saturday mornings at 11 a.m., presented the following physicans in transcribed broadcasts under the auspices of the Educational Committee:

Edmund A. Gorvett, January 27, The Irritable Colon.

Lester Nalefski, February 3, Living with the Atom Bomb.

Burton C. Kilbourne, February 10, Is It a Fracture or a Break, Doctor.

Edward S. Burge, Evanston, February 17, Prenatal Care.

Lectures Arranged Through the Educational Committee:

Jerome S. Beigler, February 5, Jewish People's Institute, on Your Body and You.

Albert C. Wendt Jr., West Side Center YWCA, February 5, on Posture and Poise.

Harry M. Hedge, Young Women's Christian Association, February 7, on Cosmetics and the Care of Your Skin.

Paul L. Wermer, Jewish People's Institute, February 12, on New Trends in Medicine.

William M. Lees, Young Women's Christian Association, February 21, on Modern Trends in Cancer Research.

Paul Ashley, Chicago Heights, Status of Women Study Group of American Association of University Women in Chicago Heights, February 21, on Cancer.

Jack Weinberg, Woman's Auxiliary to the Aux Plaines Branch of the Chicago Medical Society, February 23, in Oak Park, on How War Will Affect Your Child.

Edward F. Webb, Jewish People's Institute, February 26, on Care of the Eyes.

Adrian D. M. Kraus, Harvey Evening Women's Club and American Association of University Women (Child Study Groups), February 28, on Contagion and the New Drugs.

Harry H. Garner, Woodlawn Regional Branch, Chicago Public Library, February 28, on Growing Old Gracefully.

Robert M. Kark, Jewish People's Institute, March 5, on Nutrition in Relation to Health.

Morris T. Friedell, Jewish People's Institute, March 12, on What Is Preventive Medicine.

Mrs. John C. Scully, West Side Branch, Woman's Auxiliary to Chicago Medical Society, March 16, on The Myth of the Rolling Stone.

Joseph T. O'Neill, Ottawa, Utica PTA in Utica, April 2, We Build Together for Better Health For Our Children.

F. Garm Norbury, Jacksonville, April 2, in Olney on "Your Mental Health."

Robert R. Mustell, Burley PTA, April 13, on Parent Education.

Lawrence Breslow, Stephen F. Gale PTA, April 17, on Healthy Bodies Build Healthy Minds.

Lectures Arranged Through the Scientific Service Committee:

Louis R. Limarzi, Chicago, Champaign County Medical Society in Champaign, February 8, on Diagnosis and Treatment of the Anemias, illustrated.

Edwin N. Irons, Chicago, Kane County Medical Society in Elgin, February 14, on Newer Advances in Infectious Diseases, illustrated.

Philip Thorek, DuPage County Medical Society in Elmhurst, February 21, on Acute Surgical Abdomen.

Lawrence Breslow, McDonough County Medical Society in Macomb, February 23, on Infant Feeding with Emphasis on Infantile Colic.

Walter Reich, Chicago, Fulton County Medical Society in Canton, February 27, on Office Gynecology, illustrated.

Ormand C. Julian, Chicago, Bureau County Medical Society in Spring Valley, March 13, on Anticoagulant Therapy, illustrated.

Hans L. Popper, DuPage County Medical Society in Elmhurst, March 21, on Differential Diagnosis of Jaundice, illustrated.

John P. Coughlin, Chicago, Whiteside-Lee County Medical Societies in Sterling, April 12, on Neonatal Emergencies and Care of Emergencies.

J. Garrott Allen, Chicago, Springfield Medical Club, April 17, in Springfield, on Pathological Effects of Atomic Irradiation, illustrated.

Edward D. Allen, Chicago, DuPage County Medical Society, April 18, in Elmhurst, on Endometriosis, illustrated.

Conferences Arranged by the Postgraduate Education Committee:

In Champaign at the Elks Club, April 12, for the **Eighth Councilor District,** including the counties of Champaign, Clark, Coles, Crawford, Cumberland, Douglas, Edgar, Jasper, Lawrence, Richland and Vermilion. Dr. Harlan English, Danville, Councilor, presiding. The following will participate:

Edward N. Irons, instructor in medicine, University of Illinois College of Medicine, ACTH and Cortisone.

Peter A. Rosi, associate professor of surgery, Northwestern University Medical School, Gastric Surgical Resection versus Gastroenterostomy and Vagotomy, illustrated.

Leonard F. Jourdonais, Evanston, assistant professor of medicine, Northwestern University Medical School, Treatment of Medical Emergencies in Diabetes Mellitus.

George A. Hellmuth, assistant clinical professor of medicine, Stritch School of Medicine of Loyola University, Newer Advances in Coronary Occlusion, illustrated.

Gilbert H. Marquardt, assistant professor of medicine, Northwestern University Medical School, Geriatrics.

Julius B. Richmond, professor of pediatrics, University of Illinois College of Medicine, Abdominal Pain in Infancy and Childhood, illustrated.

In the evening, following dinner, speakers will be C. Paul White, Kewanee, President-Elect, Illinois State Medical Society, on Voluntary Prepaid Medical Insurance, and J. Garrott Allen, associate professor of surgery, University of Chicago School of Medicine, Medical Aspects of Atomic Disaster, illustrated.

In Moline at the Plantation Club, April 25, for the **Fourth Councilor District,** including the counties of Fulton, Hancock, Henderson, Henry, Knox, McDonough, Mercer, Peoria, Rock Island, Schuyler, Stark and Warren; Dr. N. C. Barwasser, Moline, presiding. The following will participate:

F. Garm Norbury, Jacksonville, Medical Director, The Norbury Sanatorium, Office Psychiatry.

Arthur H. Rosenblum, associate in pediatrics, Northwestern University Medical School, Allergy in Infants, illustrated.

George Cummins, clinical assistant in medicine, Northwestern University Medical School, Cardiovascular Aspects of Aging.

Harry A. Oberhelman, professor and chairman, department of surgery, Stritch School of Medicine of Loyola University, Surgical Treatment of Peptic Ulcer.

George Baumrucker, Cicero, clinical instructor in urology, University of Illinois College of Medicine, Treatment of the Neurogenic Bladder as Applies to General Practice.

Charles D. Krause, instructor in obstetrics and gynecology, University of Illinois College of Medicine, Treatment of Obstetrical Emergencies, illustrated.

Richard J. Bennett, associate in surgery, Northwestern University Medical School, The Significant Findings of 2,500 Physical Examinations in Men 65 Years of Age.

After dinner in the evening, Dr. Percy E. Hopkins, chairman, Committee on Medical Service and Public Relations, Illinois State Medical Society, will discuss "Voluntary Prepaid Medical Insurance", and Louis R. Limarzi, associate professor of medicine, University of Illinois College of Medicine, and Howard L. Alt, associate professor of medicine, Northwestern University Medical School, will hold a symposium on hematology.

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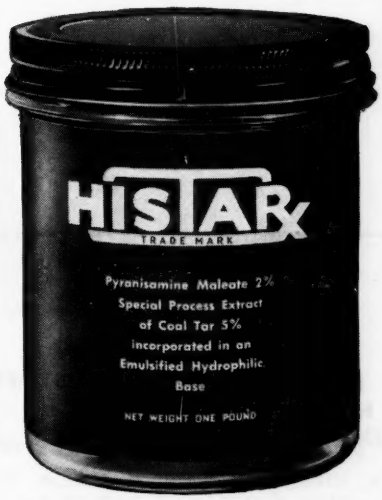

For prescriptions — all pharmacies stock 2 oz. jars; for dispensing purposes, 1 lb. jars available through your surgical supply dealer.

Now, all in one preparation, HISTAR brings you a stable, balanced combination of a proven antihistaminic and tar extract for many allergic skin disorders.

HISTAR combines pyrilamine maleate 2% (formerly called pyranisamine maleate) with special process extract of coal tar 5% (Tarbonis brand) in a water-miscible, hydrophilic cream base, clean and non-staining in use.

Months of pharmaceutical research assure a completely stable emulsion. The antihistamine works to relieve the itching, swelling and burning that generally accompany many allergic dermatologic disorders, while the special process extract of tar treats the condition itself. It is especially indicated in neurodermatitis, atopic dermatitis, urticaria, the allergic rashes, etc.

No longer need you write two prescriptions. HISTAR's synergistic action provides the complete cycle of therapy in one easy to use clinically proven product. Your patient will appreciate its simplicity of application.

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PHYSICAL MEDICINE ABSTRACTS

AN EVALUATION OF VARIOUS METHODS OF HEATING VAGINAL AND ADJACENT TISSUES

R. N. Miller, M.D., Steven M. Horvath, Ph.D., C. Day, M.D., F. X. Sweeney, M.D., A. Rubin, M.D. H. Mellette, B.S., F. Smith and B. K. Hutt, Philadelphia. In ARCHIVES OF PHYSICAL MEDICINE, 31:11:721, November 1950.

Most gynecologists believe that heat is of value in the treatment of pelvic infection. The amount of heat necessary to produce required results does not appear to be clearly defined. Clinically it is considered that heat sufficient to induce only mild changes in the local temperature is effective. There are investigators, however, who insist that best results are obtained with very high local temperatures. Ignoring for the moment the relative virtues of these two opposing concepts, it is worthwhile to consider the question as to the absolute ability of the various modalities being employed to raise the temperature of the vagina and adjacent tissues. Values as high as, or even higher than, 114 F. have been claimed by some investigators. In many instances, however, the justification for such claims is not apparent, and they are not substantiated by the data or the methods of collection of the data. In view of the divergence of opinion, it was felt that a reevaluation of these modalities was necessary.

The Elliott procedure was the most effective of the procedures being evaluated in this study.

The elevations in temperature induced were of a moderate order of magnitude. The explanation for this small change probably is complex, but a major factor undoubtedly is the profuse blood supply of the pelvic organs, which rapidly dissipates the calories being introduced.

INHALATION THERAPY IN INDUSTRY

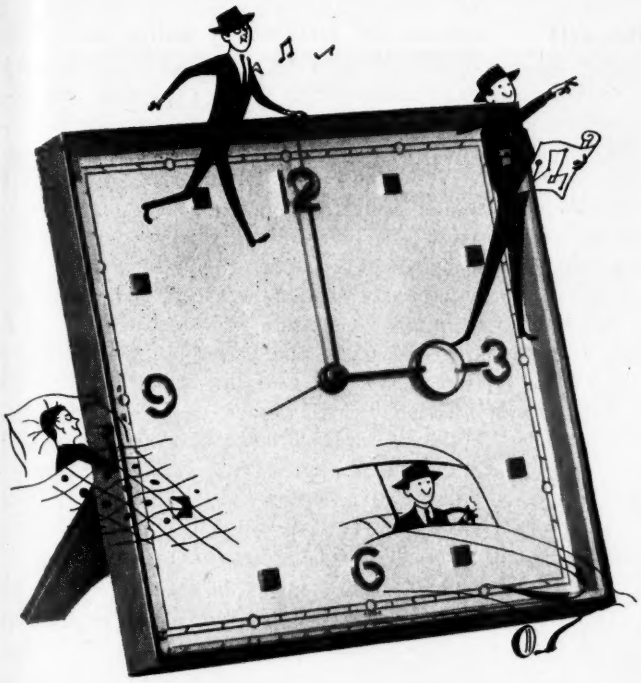
A. W. Borland, M.B., Ch.B., Medical Officer, Thames Board Mills Ltd. In THE BRITISH JOURNAL OF PHYSICAL MEDICINE, 13:10:217, October 1950.

Minor disabilities, due to affections of the nasopharnyx and respiratory system, causes a considerable amount of sickness absence in industry, not because of any industrial hazard but in the general daily exposure to infection.

Heating and ventilation make some contribution to a healthy working environment in the factory, but there are numerous occupations in which exposure to extremes of temperatures is unavoidable, this tending, in susceptible persons, to produce respiratory trouble.

It is clear that inhalation therapy is well suited to factory practice, especially if given in the form of an aerosol. Its chief aim is pre-

(*Continued on page* 64)



For your allergic patients... the antihistamine that gives

'Round-the-clock relief from 4 small doses

Decapryn's *long-lasting relief*,[1] combined with *low milligram dosage*,[2] makes it the ideal antihistamine for treating difficult allergies, or patients who have not responded to other drugs.

1. "Symptoms were relieved from 4 to 24 hours after the administration of a single dose of Decapryn—"... Sheldon, J.M. Et al: Univ. Mich. Hosp. Bull. 14:13-15 (1948)
2. "It was found that 12.5 mg. could be given during the day with comparatively few side reactions and yet maintain good clinical results—" ... MacQuiddy, E.L.: Neb. State M.J. 34:123 (1949)

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vention in the first place, and so it can make a positive contribution to production.

Inhalation therapy enables some employees to continue at work, by treating subacute disabilities which would otherwise incapacitate them. In addition, there is ample opportunity of assessing the value of the many new substances now becoming available, which are designed for respiratory medication, and which may replace, in time, the era of the "cough bottle" and the poultice. It has, at least, the merit of tackling the problem in a rational way.

From the experience of the past two years, it has been found to be worthwhile to continue on the same lines; in due course it is hoped to evolve some kind of standard technic.

THE RISK OF POLIOMYELITIS AFTER TONSILLECTOMY

Gaylord W. Anderson, M.D., Dr. P. H., Genevieve Anderson, B.S., M.P.H., Audrey E. Skaar, B.S., and Franziska Sandler, M.S., Minneapolis, Minn. In THE ANNALS OF OTOLOGY, RHINOLOGY AND LARYNGOLOGY, 59:3:602, September 1950.

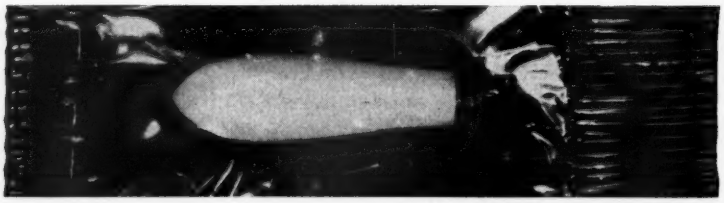
The existance of a relationship between poliomyelitis and tonsillectomy during the month preceding onset was first suggested by Sheppard in 1911 and clearly shown by Aycock and Luther in 1929. Since that time, numerous investigators have added to the growing literature on this topic, placing on record many instances of severe involvement that occurred within a few weeks after removal of tonsils. Undoubtedly many cases and even groups of cases remain unrecorded. Out of the many reports has come a growing realization that poliomyelitis occurring during the first month after tonsillectomy is more apt to be of the bulbar type than is infection occurring under other circumstances.

During the 1946 outbreak of poliomyelitis in Minnesota, 21 cases occurred within one month following tonsillectomy. Details of 19 of these are presented. Five (3 of the 19) were fatal.

Twelve of the 19 (63.2%) were bulbar as contrasted with only 4 bulbar out of 18 cases (22.2%) who had tonsils removed in the 2nd and 3rd months preceding onset.

There was a concentration of bulbar cases whose onset after operation was within the ap-

(*Continued on page* 66)



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Soothing the Hemorrhoidal Area... Analgesic, vasoconstrictive medication in contact with the entire hemorrhoidal zone is provided in Numoroidal Suppositories. The special emulsifying base mixes with the secretions to assure coverage of the rectal area.

Convenient: Individually packed. No refrigeration necessary.

Formula: ephedrine hydrochloride 0.22%; benzocaine 5.00%, in a special emulsifying base. Average weight of 1 suppository—1.8 Gm.

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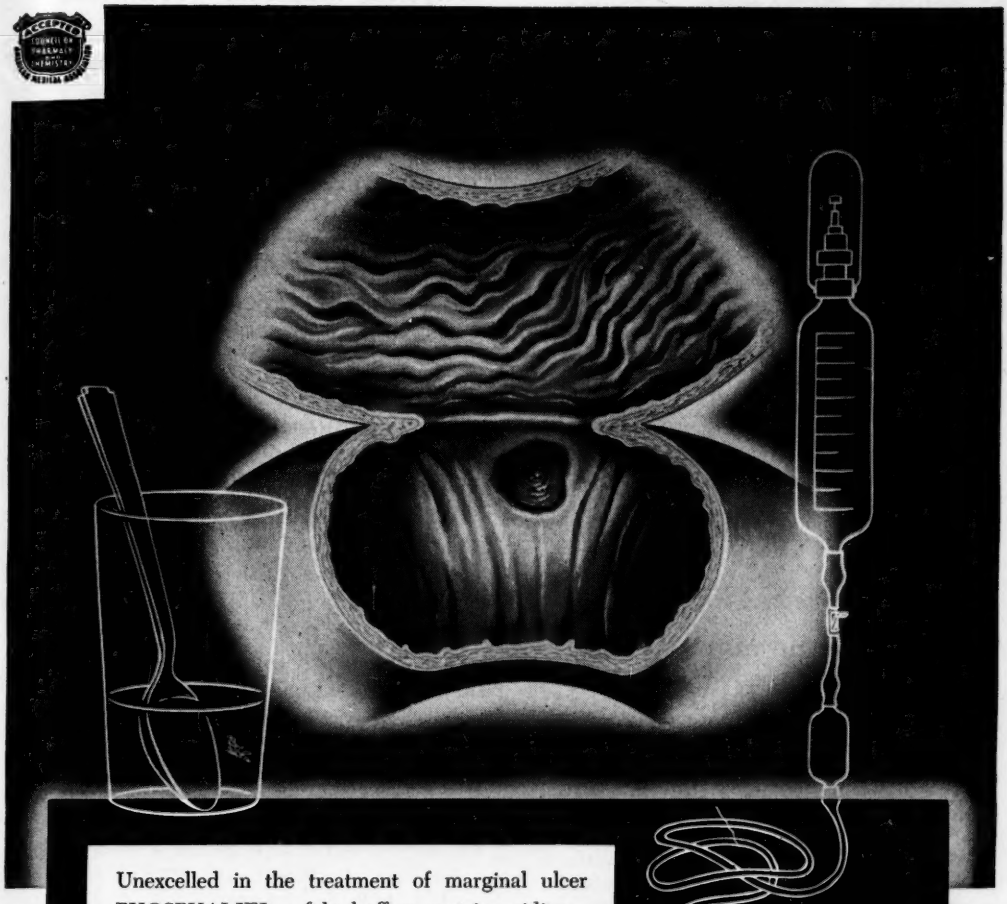
NUMOTIZINE, Inc., 900 North Franklin Street, Chicago 10, Illinois



Unexcelled in the treatment of marginal ulcer PHOSPHALJEL safely buffers gastric acidity—with no danger of alkalosis or "acid rebound." It lays a protective coating over the inflamed mucosa . . . provides quick relief from pain, facilitates rapid gains in strength and weight.

Excellent for prophylaxis against seasonal recurrences, protection against marginal ulcer following surgery, and in cases complicated by diarrhea and pancreatic deficiency.

PHOSPHALJEL is also admirably suited to intragastric drip therapy of refractory or bleeding cases.

Bottles of 12 fl. oz.

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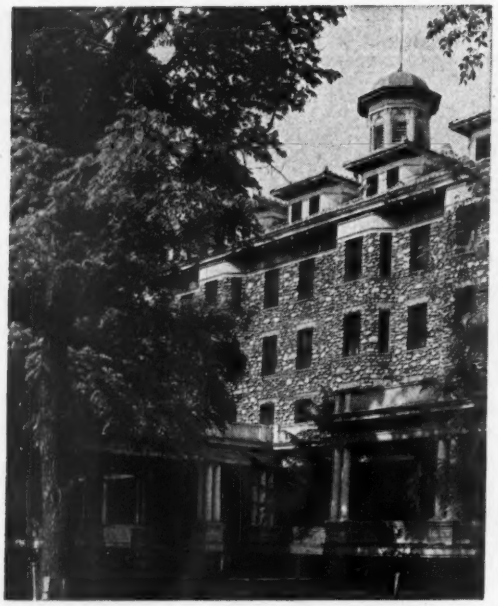


RENEWED STRENGTH
for your
Elderly Patients

The specialized care and handling required by so many of your elderly patients are available at Battle Creek Sanitarium. Here your geriatric patients can receive every attention that is needed to bolster their nutritional and physical health. When the diet calls for the inclusion of meat and fish, these foods are available, carefully planned by highly trained dietitians and deliciously prepared by competent chefs.

Complete medical facilities give assurance that existing abnormalities will be detected and properly cared for. The competent resident nursing staff understands the problems of aging. Physicians are invited to refer their geriatric patients here for the finest of care that can be given them. Special orders will of course be carried out meticulously.

Battle Creek Sanitarium has been offering its outstanding services continuously for 85 years; James T. Case, M.D., is president of the Board of Trustees.

Wire or call collect for complete information on availability of accommodations.

THE BATTLE CREEK SANITARIUM
BATTLE CREEK, MICHIGAN

Physical Medicine (Continued)

parent usual range of incubation periods.

The risk of developing poliomyelitis was at least three times as great among those undergoing tonsillectomy as among a comparable group not undergoing this operation and the risk of bulbar infection was 11 times as great.

REMOVAL OF SEBACEOUS CYSTS BY ELECTROSURGICAL MEANS

Sidney J. Robbins, M.D., New York and Nathan Pensky, M.D., Brooklyn. In ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY, 62:3:411, September 1950.

Summary: A simplified modification of the method of treating sebaceous cysts of the skin with the monopolar Ouidin diathermy current is described.

This method has the advantages that it is simple, the asmetic results are excellent, there are few recurrences, the pain and discomfort to the patient are minimal and no anesthesia is necessary.

A minimum of apparatus is required, and the entire operation can be performed in a few minutes as an office procedure.

PHYSICAL MEDICINE FOR THE HOME-BOUND ARTHRITIC

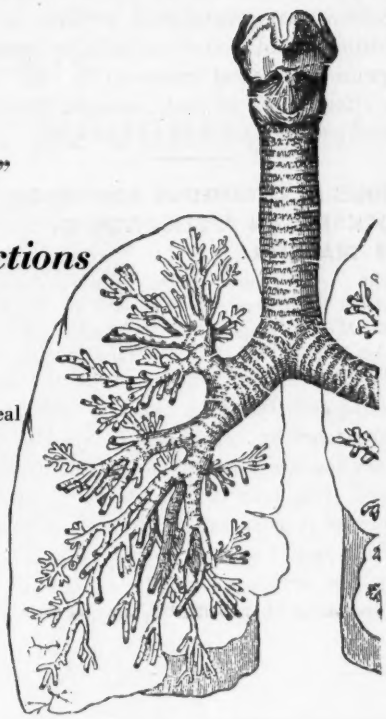
Donald J. Erickson, M.D., Rochester, Minn. In THE BRITISH JOURNAL OF PHYSICAL MEDICINE, 13:9:193, September 1950.

In the Section on Physical Medicine in the Mayo Clinic, patients with certain chronic rheumatic conditions are presented with a prescribed program of physical therapy for use in the home. The effectiveness of such a program was investigated in a survey made by Treusch and Krusen (1943) of 218 cases of arthritis in which a program of home physical therapy had been prescribed. It was found that 93 per cent of the patients had continued the prescribed treatment for varying lengths of time; that 65 per cent had continued it for three months or longer, and that 27 per cent had used it for one year or longer. In approximately 80 per cent of the cases, the patients thought that they had been benefited by the home treatment. The program is used in cases of rheumatoid arthritis and osteoarthritis.

(Continued on page 68)

"prompt" response
"excellent" response
"...extremely effective"

in acute upper respiratory infections



Promptness of response to therapy is essential in these infections to accelerate the patient's recovery and prevent the spreading of infection. Acute laryngotracheal bronchitis (H. influenzae)[1], acute follicular tonsillitis (Str. pyogenes)[2], and streptococcic pharyngitis[3,4] are among the conditions in which uniformly favorable responses described as "excellent" and "prompt" have been obtained with this new antibiotic agent. In pharyngitis particularly, it has been noted that Terramycin "... given orally appears to be extremely effective."[5]

CRYSTALLINE Terramycin HYDROCHLORIDE

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

The growing clinical literature continues to stress:

1. *The broad-spectrum activity of Terramycin* against organisms of the bacterial and rickettsial as well as several protozoan groups.
2. *The promptness of response to Terramycin* in acute and chronic conditions affecting a wide range of systems, organs and tissues.

Supplied:

250 mg. capsules, bottles of 16 and 100;
100 mg. capsules, bottles of 25 and 100;
50 mg. capsules, bottles of 25 and 100.

1. Herrell, W. E.; Heilman, F. R., and Wellman, W. E.: Ann. New York Acad. Sc. 53:448 (Sept. 15) 1950.
2. Herrell, W. E.; Heilman, F. R.; Wellman, W. E., and Bartholomew, L. A.: Proc. Staff Meet. Mayo Clin. 25:183 (Apr. 12) 1950.
3. Knight, V.: New York State M. J. 50:2173 (Sept. 15) 1950.
4. Dowling, H. F.; Lepper, M. H.; Caldwell, E. R., and Spies, H. W.: Ann. New York Acad. Sc. 53:433 (Sept. 15) 1950.
5. Schenck, H. P.: M. Clin. North America 34:1621 (Nov.) 1950.

Antibiotic Division Pfizer CHAS. PFIZER & CO., INC., *Brooklyn 6, N.Y.*

1941 A Decade of Progress in Antibiotic Therapy *1951*

Physical Medicine (Continued)

Patients with rheumatoid arthritis or osteoarthritis should follow a definite, prescribed program of physical treatment in their homes. The effective use of heat, massage, exercise and supportive aids is of value in such cases.

STUDIES IN CUTANEOUS ADRENERGIC BLOCKADE: AN APPLICATION OF ION TRANSFER

Arthur A. Rodriquez, M.D., Jules H. Last, M.D., Adolph Rostenberg Jr., M.D., and H. Worley Kendell, M.D., Chicago. In ARCHIVES OF PHYSICAL MEDICINE, 31:7:442, July 1950.

SY-28 exhibited very potent local adrenergic blocking activity lasting twenty-four hours, when administered by ion transfer. The duration of application necessary to obtain effective blocking ranged from four to eight minutes. The high incidence of sensitization (28 per cent in a series of 46 subjects) when the drug was administered by a new device, which provides for the incorfulness as a therapeutic agent by this technic. It was of interest that, while participating in the eczematous sensitization reaction, SY-28 was still capable of adrenergic blocking activity. Antihistaminic activity also was clearly exhibited.

Transient local adrenergic blocking activity was exhibited by Dibenamine Hydrochloride when administered by ion transfer. Twenty to thirty minutes of the ion transfer is required to produce 68 to 80 per cent blocking of epinephrine for a period of one-half to two hours after application of the drug. After two hours, however, blocking activity rapidly declined. Further studies on this phase of the problem are being made. No sensitization to Dibenamine was noted in 10 subjects tested.

FRACTURES OF THE SPINE

Carruth J. Wagner, M.D., San Francisco, Calif. In THE AMERICAN JOURNAL OF SURGERY, 80:4:424, October 1950.

Fractures of the spine make up an important part of any orthopedic service. We have the

(*Continued on page 70*)

UNTIL her physician can observe and treat her symptoms, many a woman, even today, faces the *failing fires of the menopause with confusion . . .*

Physicians who are no longer satisfied with the limited action of replacement therapy alone, are electing to use a MORE COMPREHENSIVE TREATMENT for menopausal disturbances. Specifically designed for this purpose, Tablet Phen-Orivan, Dorsey provides, in addition to estrogenic substances:

Thyroid to stimulate metabolism and promote a feeling of well being; phenobarbital and hyoscyamus to hasten relief by sedative and antispasmodic action.

EACH TABLET PHEN-ORIVAN, DORSEY CONTAINS:

Phenobarbital	¼ gr.
	⅛ gr.
Thyroid	⅛ gr.
Ext. Hyoscyamus	
Estrogenic substances from pregnant mares' urine, in their naturally occurring, water-soluble, conjugated form, expressed as sodium estrone sulfate	0.25 mg.

TABLET **PHEN-ORIVAN, Dorsey**

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appetite must be controlled

"The greatest problem in preventive medicine in the United States today is obesity."[1] And today it is well-known that *"The only way to counteract obesity . . . is by a restriction of food intake."*[2]

'Dexedrine' Sulfate controls appetite, making it easy for the patient to avoid overeating and thus to lose weight safely without the use (and risk) of such potentially dangerous drugs as thyroid.

In weight reduction 'Dexedrine' *"is the drug of choice because of its effectiveness and the low incidence of undesirable side effects."*[1]

Smith, Kline & French Laboratories • Philadelphia

Dexedrine* Sulfate tablets • elixir

A most effective drug for control of appetite in weight reduction

*T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.

1. Walker, W.J.: Obesity as a Problem in Preventive Medicine, U.S. Armed Forces M.J. 1:393, 1950.
2. John, H.J.: Dietary Invalidism, Ann. Int. Med. 32:595, 1950.

impression that our results are much improved with the Watson-Jones method than previously and are certain that the incidence of traumatic neuroses in the compensation cases has been decidedly lowered.

In using the Watson-Jones technic of closed reduction of lumodorsal fractures great care must be used to prevent hyperextension of the lumbosacral joint. Immobilization for four months with this joint in such a position will leave the patient with a disability that will exceed that of the fracture which is untreated. After removal of the plaster, flexion exercises should replace the hyperextension exercises the patient has been practicing during this immobilization.

THE PREVENTION OF ULTRAVIOLET ERYTHEMA OF TOPICAL APPLICATION OF PYRIBENZAMINE

Bruce B. Grynbaum, M.D., William Bierman, M.D., and Abner Kurtin, M.D., New York. In ARCHIVES OF PHYSICAL MEDICINE, 31:9: 587, September 1950.

Pyribenzamine is an effective agent in the prevention of the erythema produced by ultraviolet radiation. A ten per cent solution of Pyribenzamine affords complete protection against an exposure equal to 3 minimal erythemal doses and protects well, with only mild erythema formation, against 10 minimal erythemal doses.

We were unable to demonstrate any special chemical or biologic action to account for this protective influence. This effect seems to be produced by a purely physical barrier to ultraviolet radiation.

PHYSICAL MEDICINE AND REHABILITATION IN THE MANAGEMENT OF HEMIPLEGIA IN THE ADULT

M. K. Newman, M.D., and Lewis Cohen, M.D., Detroit, Mich. In THE JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY, 49:8:915, August 1950.

The hemiplegic patient, the forgotten patient in medicine, is capable of unrealized restoration, physically, mentally, socially. Just as other chronic conditions (neoplastic, infectious, and psychiatric) have demonstrated their amenability to rational therapy, the chronic, semi-disabled,

(*Continued on page 72*)

PROMPT PAIN RELIEF...
RAPID, PROLONGED
ANTACID ACTION...
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CONTENT...
NO ACID REBOUND
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In peptic ulcer and hyperacidity, Alzinox gives prompt and prolonged symptomatic relief, without alkalosis or acid rebound—the pH goes no higher than pH 4.5 even when Alzinox is given in excess.

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Alzinox is also available combined with phenobarbital and homatropine methyl bromide—for ant-acid-sedative-antispasmodic medication in one product.

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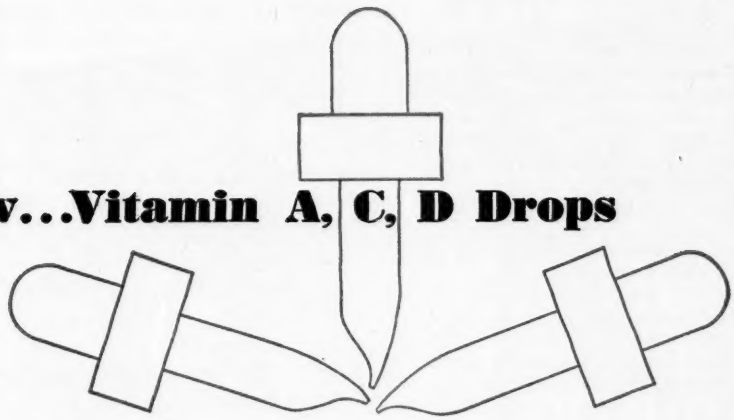

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in aqueous solution for ***better absorption***

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Vitamin ACD Drops

Advantages:

Aqueous Solution—means faster and more efficient absorption of the fat-soluble vitamins A and D.

In conditions in which fat absorption is impaired, such as diarrheas, celiac disease, hepatic and biliary disturbances, the value of an aqueous solution is obvious.

Hypoallergenic—all the component vitamins of Aquasperse are synthetic. Consequently it may be used where patients cannot tolerate natural source vitamins.

Pleasant flavor... no objectionable odor—Aquasperse has an appealing, slightly citrus flavor and practically no odor.

EACH 0.6 CC. CONTAINS:

vitamin A	5000 U.S.P. Units
vitamin D_3	1000 U.S.P. Units
ascorbic acid	50 mg.

Note: The vitamin D_3 in Aquasperse is chemically identical and biologically equivalent to the vitamin D of cod liver oil.

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Complete Control of Epilepsy

Rather than simply reducing the number of seizures, the aim of antiepileptic therapy should be to maintain the patient seizure free and to help him live as normal a life as possible. This can be achieved by an integrated method of treatment.

I. OBJECTIVE — MAINTENANCE OF AN INTEGRATED PERSONALITY THROUGH:
   a. emphasis of patient's abilities not his disabilities
   b. participation in normal activities (not to the point of fatigue however)
   c. avoidance of patronization or overprotection
   d. removal of guilt feeling in patient due to ignorance or shame of disease

II. MAXIMUM SEIZURE CONTROL WITH A MINIMUM LOSS OF EFFICIENCY THROUGH:
   a. complete and correct diagnosis
   b. careful adjustment of medication to suit the patient's needs (depends on nature, frequency, severity of seizures)

III. SELECTION OF MEDICATION TO SUIT THE SEIZURES:

The drugs most commonly used at the present time are the barbiturates, the oxazolidinediones, and the hydantoins. Mesantoin is a newer hydantoin and is most effective in controlling grand mal, psychomotor and Jacksonian seizures.

DOSAGE REGULATION must be adjusted so as to obtain the smallest dose (usually 4-6 tablets) which will render the patient seizure free. Start therapy with ½ or 1 tablet daily. After a week on this dose a ½ or 1 tablet increment is added for one week. This is continued until the optimum maintenance dose is reached. If other medication is being taken unsuccessfully, Mesantoin can be added to the regimen in the same fashion, while the old drug is being reduced gradually.

SIDE EFFECTS—Mesantoin has been reported to produce side effects which can be manifested as a) rash b) drowsiness and c) blood dyscrasia. The skin and blood changes are primarily manifestations of individual sensitivity and indicate that the drug should either be reduced or discontinued.

PRECAUTIONS — as with most potent medication, certain precautions are necessary.

a. close check on the patient — repeated visits and blood counts — prescriptions should be non-renewable
b. no Mesantoin if original white blood count is below 4000
c. caution if rash or blood changes occur and if patient has history of previous skin rash or drug sensitivity
d. discontinue drug if bleeding of gums or vagina occurs — if patient develops sore throat or upper respiratory infections

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hemiplegic patient now finds means for his rehabilitation through an integrated plan of treatment involving medical, surgical, physical, psychological and vocational services.

TREATMENT OF PERIPHERAL ARTERIOSCLEROSIS OBLITERANS: PHYSICAL AGENTS

Albert Fields, M. D., Los Angeles, Calif. In AMERICAN PRACTITIONER, 1:11:1156, November 1950.

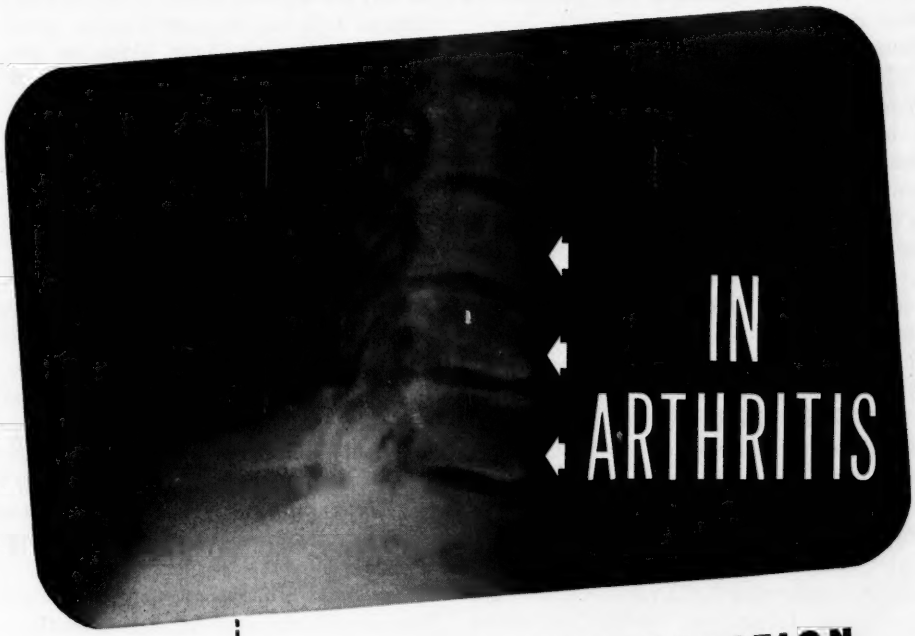
In the attempt to relieve the symptoms of impaired peripheral circulation there is an increasing tendency towards indiscriminate use of physical therapy. Furthermore, the impressively glittering and "complicated" apparatus of physical therapy has provided a ready means of exploitation of the desperate afflicted. In this paper an attempt is made to present some of the indications for various physical modalities. Limitations, contraindications and dangers are pointed out.

Walking. Walking is usually contraindicated in the presence of severe pain during rest, discoloration of sudden onset, rapid increase in discoloration, and in the presence of gangrene or ulceration. According to Wright, the optimum rest position for the extremities is three to six inches below the heart. In absence of contraindications the patient should be encouraged to walk slowly within limits of olterance — until pain develops. Then after rest and calf massage, walking can be resumed. This can be repeated for a total of 30 minutes three times daily.

Postural Exercises (Buerger). It has not been proved that these exercises do increase the blood flow. However, if these exercises do not make too great demands on the individual, they are of value by reminding him that he has impaired circulation, and must take better care of his extremities. The Allen exercises are simpler but no more effective.

Sanders Bed. Best results were obtained with room temperature of 85 F. and elevation of the head of the bed so that the feet are just a few inches below the level of the heart. It was found advisable to have the feet become just balanced

(*Continued on page* 74)



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Without side effects

Relief of arthritic pain, the objective of therapy in joint involvements, is readily achieved with Salcedrox. The buffered sodium salicylate is more easily tolerated than salicylate alone, and is rendered systemically less toxic by the presence of calcium. The tendency to increased ascorbic acid loss is counteracted by the presence of calcium ascorbate in Salcedrox.

Salcedrox is highly useful whenever salicylates are indicated —in arthritis, rheumatoid involvements, neuromuscular affections, and rheumatic fever. It is available on prescription at all pharmacies. Literature supplied on request.

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Each Salcedrox tablet supplies:

Sodium salicylate	5 gr.
Aluminum hydroxide gel, dried	2 gr.
Calcium ascorbate (equivalent to 50 mg. of ascorbic acid)	1 gr.
Calcium carbonate	1 gr.

THE S. E. MASSENGILL COMPANY
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SALCEDROX
TABLETS

when elevated and cyanosed when in the dependent position.

Temperature of toes can be increased 1 to 4 C. The most striking effect was relief of pain in most patients even in presence of gangrene and ulceration. However, improved exercise tolerance and eradication of intermittent claudication should not be expected.

"Pavaex." Despite reported good results in occasional cases, "pavaex" is of questionable value and is contraindicated in the presence of gangrene, ulcers or infections.

Intermittent Venous Occlusion. Probably the popularity of this therapy is related to its availability, simplicity, and the fact that the patient can run the machine by himself at home. Its value has not been varified by controlled clinical experiments and in the future it will be little used.

Massage. Light massage (effleurage) for 15 minutes twice daily has a beneficial action by producing superficial capillary dilatation without increasing metabolism. Deeper massage increases venous return and lymph flow along with arterial flow but, if too vigorous, may increase metabolism and further injure already damaged tissues. It is contraindicated in the presence of infection, phlebitis, large ulcers or gangrene. Massage and gentle slow, passive stretching or traction also helps to relieve fibrositis and painful muscle spasms. As pain is relieved and muscle strength built up, one can increase active repetitive exercises against heavy resistance and walking within pain limits. Mechanical massagers and vibrators are mentioned only to be condemned.

Contrast Baths. Harpuder and others see no justification for the alternate use of hot and cold.

Whirpool Baths. It is doubtful that any form of bath can produce a prolonged improvement of circulation. However, as long as the water used is neither too hot nor too cold, the baths are not harmful, and many patients continue with this therapy because they think they are benefited by it.

Environmental Temperature. Obviously, the patient with impaired circulation should not fol-

(*Continued on page* 76)

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tension and migraine headaches - - spastic dysmenorrhea - - spasms of gastro-intestinal and genito-urinary tracts, with accompanying nervousness.

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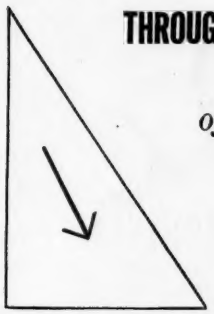
Patient Carries on Normal Pursuits



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of the symptoms of urinary tract infection

Throughout the course of treatment for urinary disorders many patients continue their usual activities, thanks to analgesia produced with orally administered Pyridium.

Pyridium can be safely administered concomitantly with antibiotics, the sulfonamides, and other specific therapy.

An analysis of symptomatic relief in 118 cases treated with Pyridium shows:*

Urinary frequency promptly relieved in 85% of cases.

Pain and burning decreased in 93% of cases.

*Kirwin, T. J., Lowsley, O. S., and Manning, J.: Effects of Pyridium in certain urogenital infections, *Am. J. Surg.* **62**: 330-335, December 1943.

The complete story of Pyridium and its clinical uses is available on request.

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Physical Medicine (Continued)

low any occupation involving exposure to cold. In inclement weather he should wear warm clothing or better yet, remain indoors.

Direct Heat. Fields believes that it is unsafe to apply heat in any form to extremities with impaired arterial circulation. This includes hot foot baths, hot compresses, hot water bags, infrared lamps, desert lamps, etc. Even moderate degrees of warmth (92 degrees) may increase local tissue metabolism more than it increases the circulation. Heat is beneficial only when circulation is increased more than the accompanying increased metabolism. With thermostatically controlled sheets and blankets, mild heat can be applied to the whole body for prolonged periods with confort and safety.

Reflex Heating. This method is much safer than direct heat application to the involved extremity. Increased blood flow and temperature rise indicates a high vasospastic element and/or extensive collateral circulation. Some restrict this therapy only to cases where such a response is obtained.

Diathermy. It is generally inadvisable to use diathermy on a limb with impaired circulation. It is safer to apply diathermy to the lumbar region, thus inereasing blood to the lower extremities indirectly.

Summary. (1) Many physical agents now widely used in the treatment of peripheral arteriosclerosis obliterans are of little value in halting the progress of this condition.

(2) In the presence of impaired circulation, physical therapy must be used with caution and constant supervision.

(3) Attempting to relieve symptoms by vigorous use of physical agents probably will aggravate the condition.

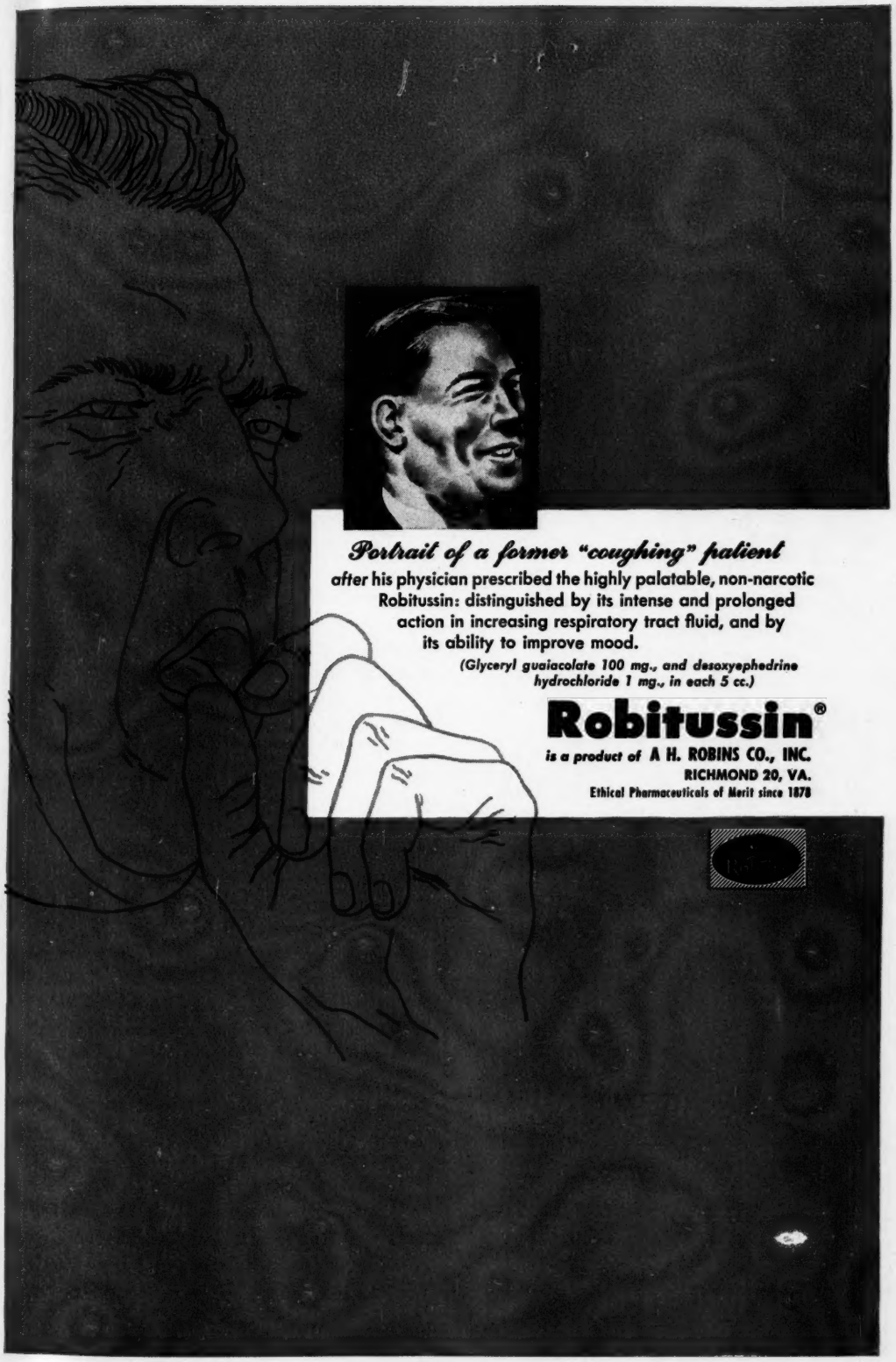
(4) There are only a few worthwhile physical therapies — walknig within limits of tolerance, light massage, reflex heating, thermoregulated sheets and blankets, and whirpool baths.

(5) Carbon dioxide baths, iontophoresis and perhaps intermi'tent venous occlusion may be of limited value.

RECENT CONCEPTS OF RHEUMATOID ARTHRITIS

Oliver Abel, Jr., M. D., St. Louis. In THE JOURNAL OF THE MISSOURI STATE

(*Continued on page 78*)


Portrait of a former "coughing" patient
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(Glyceryl guaiacolate 100 mg., and desoxyephedrine hydrochloride 1 mg., in each 5 cc.)
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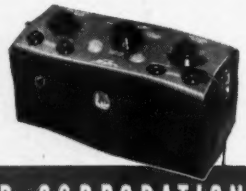
Frequent necessity of cervical repair suggests the practicality of having a BLENDTOME ELECTROSURGICAL Unit in the office or clinic. With this instrument, the doctor is enabled to do a smoother cervical conization. The BLENDTOME cuts and coagulates simultaneously with a blended current. Scar and other tissue is cut through quickly and easily; blood and lymph vessels are almost instantly sealed. The cleaner field results in reduced trauma and operative shock, smoother convalescence and more rapid healing.

The Birtcher BLENDTOME was *designed* for use in the doctor's office or private clinic. It provides electrosurgery for all but the strictly major cases. There are many everyday uses for the BLENDTOME—any case indicating fast and sure cutting with simultaneous sealing off of blood and lymph vessels.

Consider how much more you would be able to do with the ease, timesaving and effectiveness of a Birtcher BLENDTOME in your own office. Write for literature.



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Physical Medicine (Continued)

MEDICAL ASSOCIATION, 47:11:805, November 1950.

Rheumatoid arthritis is a general disease and affects the individual as a whole, not just the joints. Necessarily, treatment must be directed to the whole individual, both his physical and mental states. The physician should have a clear understanding with the patient in regard to his condition, the length of treatment and as near as possible his ultimate outlook. Measures should be taken so that changes in occupations can be made, change that are adaptable to the ability of the individual.

Proper rest to the individual as a whole and to the joints involved and attention to prevention of deformities and maintenance of function are of utmost importance. Definite rest periods and definite periods of exercising and activity should be prescribed, remembering a happy medium must be sought between no general activities and too much activity. Individual joints must be exercised first passively, as soon as the acute inflammation has subsided, and then actively for certain increasing periods each day. The amount of pain complained of and its duration and whether the pain with increased severity occurs should be the guide to the length of time of the exercises. Massage of muscles between joints associated with the exercises should be given. In regard to physical therapy, complicated and expensive apparatus is never necessary. Local heat in the form of light bulbs and pads will suffice. One of the best physical therapy measures at home is the hot tub soak. The individual, when able, should be placed in the tub and the time in the tub and the temperature increased as tolerated. While in the tub, the individual should be encouraged to move his joints. Deformities result when the parts are in flexion and this should be avoided. A proper bed is flat with a board under the mattress to prevent sagging so that the patient may rest in correct posture with joints extended. It is easier to prevent than to correct deformities. When flexion deformities have occurred, then the problem is chiefly orthopedic and it is not within the scope of this paper to go into orthopedic problems related to deformities.

(*Continued on page* 80)

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One or two tablets are placed in the mouth without water. In less than one minute, the analgesic agent is present in the blood. Here are a few typical reports:

INDICATION OR SURGERY	TIME REQUIRED FOR ANALGESIA
Post-Appendectomy	3 minutes
Post-Hemorrhoidectomy	3 minutes
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Simple Headache	½ - 3 minutes
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Many other dramatic cases reported.

1. Hoffman, Murray M., Ill. Dent. Jl., 19:439-445 (Oct., 1950)
2. McNealy, Raymond W., Ill. Med. Jl., 97:150 (Mar., 1950)

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Physical Medicine (Continued)

TREATMENT OF RHEUMATOID ARTHRITIS BY THE GENERAL PRACTITIONER

Herman H. Tillis, M. D., Newark, N. J. In THE JOURNAL OF THE MEDICAL SOCIETY OF NEW JERSEY, 47:10:475, October 1950.

In evaluating any method for the treatment of arthritis, it is desirable to follow the criteria established by Steinbrocker et al. for the American Rheumatism Association. These criteria include functional, objective and laboratory changes.

Physical therapy is important and can be accomplished simply at home without expensive gadgets. Heat to an affected part will be helpful and can be maintained by a hot water bag, electric pad or a radiant lamp. Often, paraffin baths or painting with paraffin will help soothe a painful joint. This is comparatively inexpensive. Some member of the family can be taught massage, which should be applied lightly, after heat, as a preliminary to active motion. Massage often will prevent massive muscle atrophy.

Short wave diathermy should not be used during the acute phase of rheumatoid arthritis. This modality increases osteoporosis and does more damage than good. It has some place in the treatment of more advanced and quiescent phases of the disease. Ultraviolet light has questionable value. One practitioner told me, he gives it to all his patients, because it makes them look "healthy." Galvanic current and iontophoresis with various medicaments such as histamine, are soothing and helpful, as is sinusoidal stimulation of muscles. But these highly specialized and expensive technics are often unnecessary. Occupational therapy may be a great aid in awakening a patient's interest in exercising important groups of muscles.

Measures of Probable Value. —Fever therapy included by typhoid vaccine intravenously, foreign protein or fever machines are still being used to stimulate a severe bodily reaction. Fever therapy has its dangers. Thus, a word of caution.

Whatever we do to help the world, we have to start with health. There is not much that nations agree upon, but we can agree about health. Minnesota's Health, Dr. Knud Stowman, October, 1950.

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BOOK REVIEWS

VISUAL DEVELOPMENT—Volume I—by J. H. Prince, F.R.M.S., F.Z.S., F.B.O.A., F.S.M.C. Late Regional Association Lecturer in Comparative Ocular Anatomy and Ocular Evolution. With a foreword by Professor H. Hartridge, M.A., M.D., Sc.D., M.R.C.P., F.R.S., Professor of Physiology, University of London at St. Bartholomew's Medical College, Director Vision Research Unit, Medical Research Council. The William Wilkins Company, Baltimore. 418 Pages. 1949. Price $9.50.

This British author has produced an interesting book dealing with animal vision and comparative anatomy, a field which he states is almost unlimited and has room for many investigators.

The book was written after the completion of a fifty thousand mile expedition during which the researcher accumulated data by collecting and examining animals, observing them in natural habitats, and by obtaining information from naturalists, scientists and average citizens. Obviously, much of the investigative work was done in Australia—the pictures, the names of the animals and those persons acknowledged as contributors.

The long list of references includes many of recent publication, which should indicate that there is a healthy interest in this field of experimental optics and experimental naturalism.

Those in the limited field where this text will be most helpful will find it informative and well prepared.

L. P. A. S.

COMMUNICABLE DISEASES—Edited by Roscoe L. Pullen, A.B., M.D., F.A.C.P., Professor of Graduate Medicine, Director of the Division of Graduate Medicine, and Vice-Dean, School of Medicine, Tulane University of Louisiana; Senior Visiting Physician, Charity Hospital of Louisiana, New Orleans, 53 contributors, 1035 pages, 235 illustrations and 35 in color on 20 plates. $20.00. (6½" x 10½") Published June 1950. Washington Square, Lea and Febiger, Philadelphia 6, Pa.

This new book summarizes the extensive experience at Charity Hospital, New Orleans, with communicable diseases. It deals with the diagnosis and management of communicable diseases, approaching the problem in the same manner as the practitioner approaches a patient suspected of having a communicable disease. Theoretical considerations are included where necessary but the emphasis is on the handling of the individual case.

The organization is somewhat unusual in that diseases are classified according to their manifestations rather than their etiology; that is, diseases with primarily skin manifestations are grouped together, as are those affecting the respiratory system, etc. This approach from the standpoint of the clinician makes the book more useful to the practitioner.

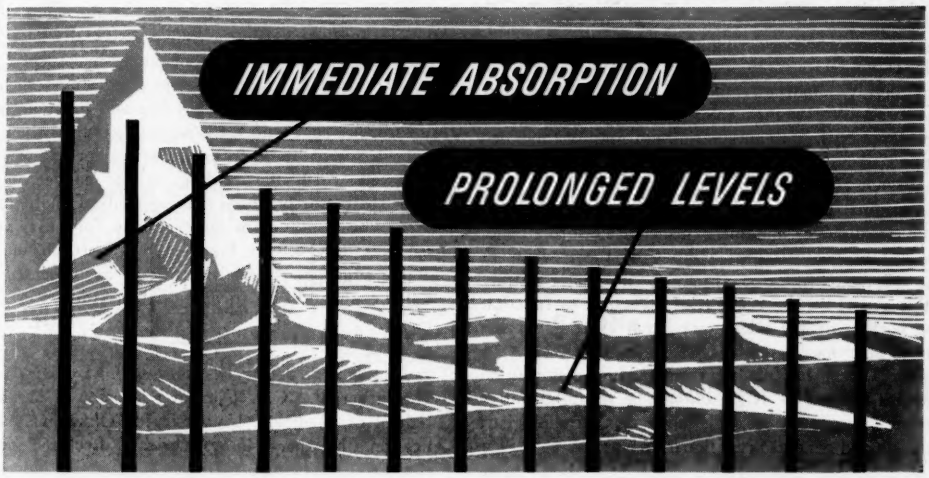
More than 100 separate diseases are considered. Each discussion is extensive and up to date. Antibiotics are thoroughly covered. Illustrations are abundant and the color plates are excellent.

This book contains an immense amount of information and is well worth the price the publishers are asking.

J. C. S.

THE ESOPHAGUS AND PHARYNX IN ACTION. A Study of Structure in Relation to Function. By William Lerche, M.D., Fellow American College of Surgeons; Founder Member and Honorary Member of the American Association for Thoracic Surgery; Formerly, Associate Professor of Surgery, University of

(*Continued on page* 84)



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BOOK REVIEWS (Continued)

Minnesota, Minneapolis, Minnesota. 229 pages. 226 references. 105 illustrations (most of which are original). Charles C. Thomas, Publisher, Springfield, Illinois, U.S.A. 1950. Price $5.50

This highly important study of the esophagus and pharynx sets forth in a most adequate manner the current knowledge pertaining to regurgitation and deglutition and on the action of the upper esophagus and the pharynx.

The original purpose of the research reported was to attempt to discover the mechanism of closure of the cardia. This goal attained a study of the mechanism of the esophagus followed, finally to encompass a study and this report on the relation of structure to function in the portion of the alimentary canal extending from cardia to pharynx.

Doctor Lerche has made an outstanding contribution to medical literature. His book will be an authoritative reference for internists, diagnosticians, radiologists, anatomists and general practitioners.

L. P. A. S.

THE PREPARATION OF PHOTOGRAPHIC PRINTS FOR MEDICAL PUBLICATION. Stanley J. McComb. Charles C. Thomas, Publisher, Springfield, Illinois. This is a 69 page booklet with many illustrations. It is most attractively set and bound and will be a real aid to anyone with a great deal of experience or with very little experience in the mechanics and art of picture making with the camera. It is not only a well written book but short and to the point. The illustrations speak for themselves especially since the well selected titles and descriptions make clear the ideas portrayed. Many of his suggestions such as "Sharpness of Focus," "Scale Size and Position" with the advance suggestions for making pictures which are to be followed by others in the series for comparison, are well worth the reading of the entire volume. The Abstractor has been making medical photographs for publication and for lantern slides for thirty years but was intrigued by the mode of approach and the usable suggestions and illustrations as presented. It will be an addition to any doctor's library.

H. M. H.

THE CLINICAL USE OF TESTOSTERONE. By Dr. Henry H. Turner, F.A.C.P., Clinical Professor of Medicine, School of Medicine, University of Oklahoma. Publication Number 46. American Lecture Series. Charles C. Thomas, Springfield, Illinois, November 1, 1950, Price $2.25.

The 59 pages of this booklet are divided into six chapters as follows: Introduction; Chemistry; Physiology; Metabolism of Androgens; Therapeutics; and Preparations of the Male Sex Hormone.

The author carefully reviews the literature. He

(*Continued on page 86*)

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Sodium Gentisate: A New Approach to the Treatment of Arthritis

It has been estimated[1] that nearly 7,000,000 people (at least one in every 20 persons) in the United States have some form of "rheumatic" disease. Rheumatism (with arthritis the most important single cause) ranks first in prevalence among diseases, and second in the production of disability and invalidism. It is more common than the total number of cases of tuberculosis, diabetes, cancer and heart disease combined.

The most common of the severe forms of the arthritides is rheumatoid arthritis. Although its etiology still remains uncertain, there are factors upon which there is general agreement.[2] (1) Rheumatoid arthritis has a definite tendency to be familial. (2) Eighty per cent of the cases occur between the ages of twenty and fifty with the peak at thirty-five to forty. (3) Females are more commonly affected than males in a ratio of 3:1. (4) Investigation shows that in the period preceding the onset of symptoms, emotional shocks are very common and this is frequently manifested by a severe depression.[3] (5) Pregnancy causes an amelioration of symptoms in a significantly high proportion.[4] (6) Involvement of the liver, as in infectious hepatitis, causes a definite remission in a significant number of patients.[5]

Since Klinge's[6] original work in 1929, evidence has been accumulating that both rheumatic fever and rheumatoid arthritis are diseases of the interfibrillar substance of the connective tissue.[7] The nature of this material is not well understood, although it is presumably a mucopolysaccharide in combination with a protein. This theory holds that changes in the cellular components are secondary to changes in the interfibrillar material. The composition of two of the mucopolysaccharides found in interfibrillar material is known: (a) chondroitin sulfuric acid, and (b) hyaluronic acid.[8] Changes in chondroitin sulfuric acid have been studied in hyaline cartilage which is affected to a considerable degree in rheumatoid arthritis.[9]

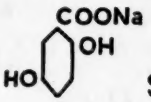
These changes have been on a purely morphological basis[9] and consist chiefly of destruction of hyaline cartilage, presumably due to interference with its blood supply by the overgrowth of pannus and granulation tissue, both beneath the subchondral plate and on the surface of the joint.

On the other hand, changes in the hyaluronic acid of the joint fluid have been shown to be present in active rheumatoid arthritis.[10, 11] These changes in active disease consist of depolymerization of the hyaluronic acid and an increase in the total amount of hyaluronic acid present. The excessive presence of hyaluronidase, moreover, has been acknowledged to produce a denaturization of mucin in the synovial fluid, the varying degrees of which are valuable for their diagnostic as well as prognostic indications.[12] Clinicians[13] have concluded that the increase of hyaluronidase activity may be responsible for the breakdown of interfibrillar cement.

A rational approach to the problem, therefore, demands a therapeutic agent that will act to inhibit the spreading effect of hyaluronidase.

Meyer and Ragan[14] treated patients having rheumatoid arthritis and acute rheumatic fever with sodium gentisate, a hyaluronidase inhibitor. Their results were uniform and notably favorable. Within a few days there followed a disappearance of pain, swelling and joint inflammation.

The increase in urinary glucuronic acid observed with salicylates does not occur with gentisates. This phenomenon has been assigned to the rapid oxidation of the gentisates.[15] It is indeed likely, as shown by examination of the structural formulas of these two compounds, that the antirheumatic action of the salicylate in forestalling the spread of hyaluronidase[16] is attributed to its partial oxidation in the body to a gentisate.



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BOOK REVIEWS (Continued)

offers enough references that one who wishes to go into the subject in greater detail will find a course of reading carefully laid out for him. The chapter on Chemistry is especially well done.

His comments regarding the treatment of angina pectoris and prostatic hypertrophy will probably be received with enthusiasm by some and skepticism by others.

He points out the disadvantages, to the patient, of the policy of leaving hypogonad boys alone on the chance that maybe they will "grow out of it."

He pays a well deserved tribute to the pharmaceutical manufacturers.

Mr. Thomas did his usual skillful job in getting the booklet out. It is a publication any practitioner would do well to add to his library.

J. H. H.

A Textbook of Physiology—Originally by William H. Howell, M.D.: Edited by John F. Fulton, M.D., Sterling Professor of Physiology, Yale University School of Medicine. Sixteenth Edition. 1258 pages with 556 figures. Philadelphia and London: W. B. Saunders Company, 1949. Price $10.00.

This is the sixteenth edition of this standard textbook of physiology. It has been revised and reset. New material on the electrocardiograph and the endocrines has been added. Unfortunately the book came out just before the new work on adrenal cortical steroids was made public. For fundamentals of physiology, however, the book maintains the standards set by Howell.

J. C. S.

BOOKS RECEIVED

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

Terminal Care for Cancer Patients — A survey of the facilities and services available and needed for the terminal care of cancer patients in the Chicago area. The Central Service for the Chronically Ill of the Institute of Medicine of Chicago, 1950. 211 pages.

Primer on Fractures — prepared by the Special Exhibit Committee on Fractures in Cooperation with the Committee on Scientific Exhibit of the American Medical Association. Sixth edition. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, 1951. 109 pages. $2.00.

Atlas of Histologic Diagnosis in Surgical Pathology. By Karl T. Neubuerger, M.D., Professor of Pathology, University of Colorado School of Medicine, Denver, Colorado. With a section on

(*Continued on page* 88)

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BOOKS RECEIVED (Continued)

exfoliative cytology by Walter T. Wikle, B.S. M.S., M.D., Assistant Professor of Pathology, University of Colorado School of Medicine, Denver, Colorado. Photographed by Glenn E. Mills, B.A., M.A., Department of Visual Education, University of Colorado School of Medicine, Denver, Colorado. The Williams & Wilkins Company, Baltimore, 1951. 460 pages. $11.00.

MEDICAL TREATMENT IN OBSTETRICS & GYNECOLOGY. By C. Frederic Fluhmann, B.A., M.D., C.M. Illustrated. The Williams & Wilkins Company, Baltimore, Maryland, 1951. 157 pages. $3.00.

PHARMACOLOGY. By Michael G. Mulinos, M.D., A.B., A.M., Ph.D., Associate Professor of Physiology and Pharmacology, New York Medical College, Flower and Fifth Avenue Hospitals, New York, New York. With a foreword by Charles C. Lieb, A.B., M.D., Hosack Professor Emeritus of Pharmacology, College of Physicians and Surgeons, Columbia University. Oxford University Press, New York, 1951. 484 pages. $5.00.

BRAIN METABOLISM AND CEREBRAL DISORDERS. By Harold E. Himwich, M.D., Chief, Clinical Research Branch, Medical Division, Army Chemical Center, Maryland. The Williams & Wilkins Company, Baltimore, 1951. 451 pages. $6.00.

NASAL SINUSES — an anatomic and clinical consideration. By O. E. Van Alyea, M.D., Associate Clinical

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Professor, Department of Laryngology, Rhinology, and Otology, University of Illinois College of Medicine, Chicago. Second Edition. The Williams & Wilkins Company, 1951. 327 pages. $9.00.

ACTA OTO-LARYNGOLOGICA. The Audiology Clinic. A Manual for Planning a Clinic for the Rehabilitation of the Acoustically Handicapped, by Moe Bergman, Ed.D., Chief Audiologist, Audiology Clinic, New York Regional Office, Veterans Administration, New York City, U. S. A. 107 pages. The Audiology Foundation, 1104 South Wabash Avenue, Chicago 5, Illinois. $1.00.

As a rule, elevation of temperature without adequate explanation should cause one to suspect pulmonary tuberculosis early in the differential study. The stethoscope has no place in the diagnosis of early tuberculosis, and the sooner physicians realize this fact, an increase in diagnosed cases of tuberculosis will become apparent. Physical signs are far less valuable than the roentgen examination in the recognition of early pulmonary tuberculosis. Inevitable failures in the detection of pulmonary lesions and the interpretation of their nature are not uncommon when reliance is placed on this method alone, this in spite of the greatest care and experience in the performance of physical examinations. *GP, Am. Acad. of General Practice, F. Kenneth Albrecht,* April, 1950.

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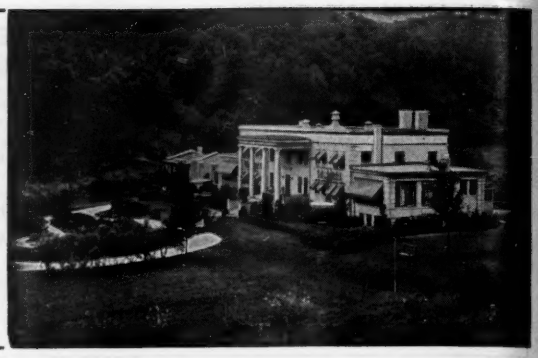

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